Patent Application
Filing Date: 12/21/2001
Attorney Docket No. RA-5411 (33012/329/101)
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 01 of 35
Express Mail No. ET351442235US
Customer Assignment No. 27516

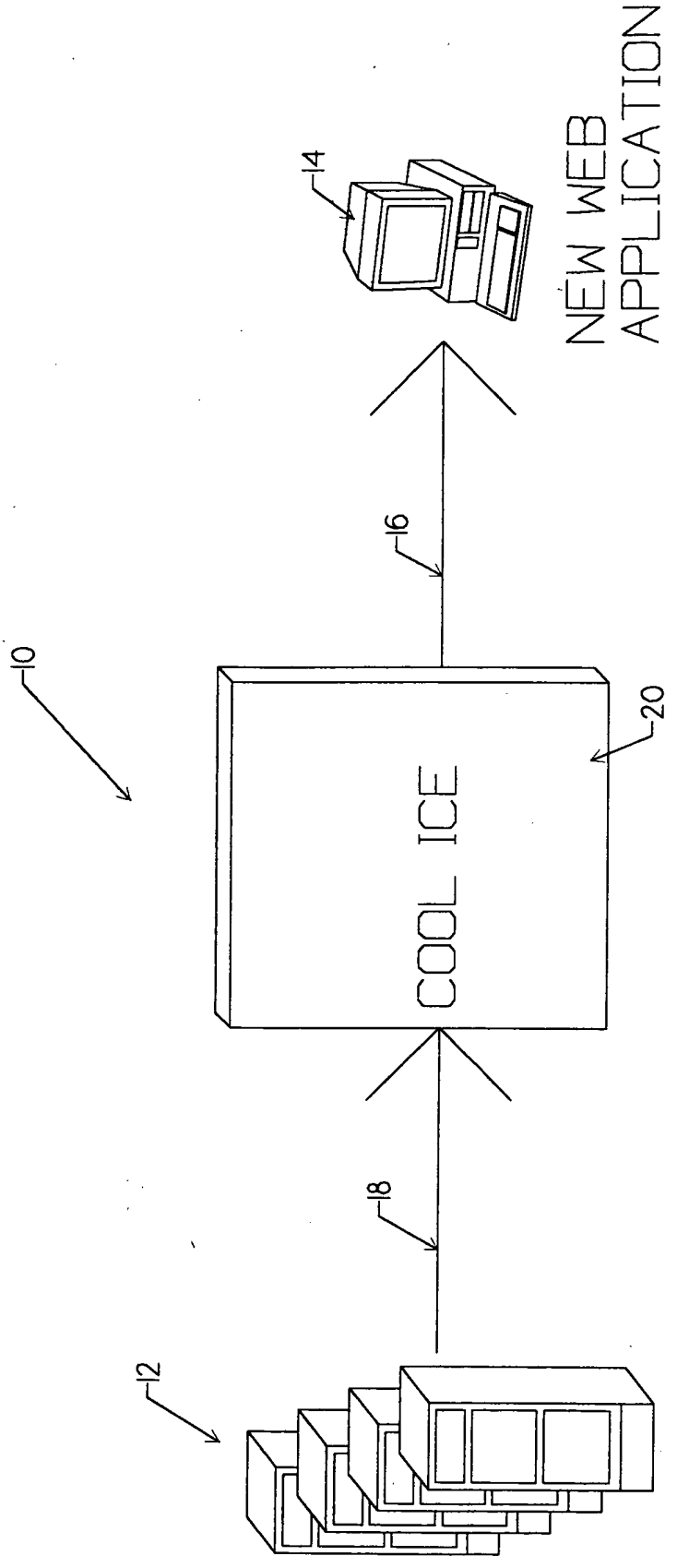

FIG. 1

Express Mail No. ET351442235US
Customer Assignment No. 27516

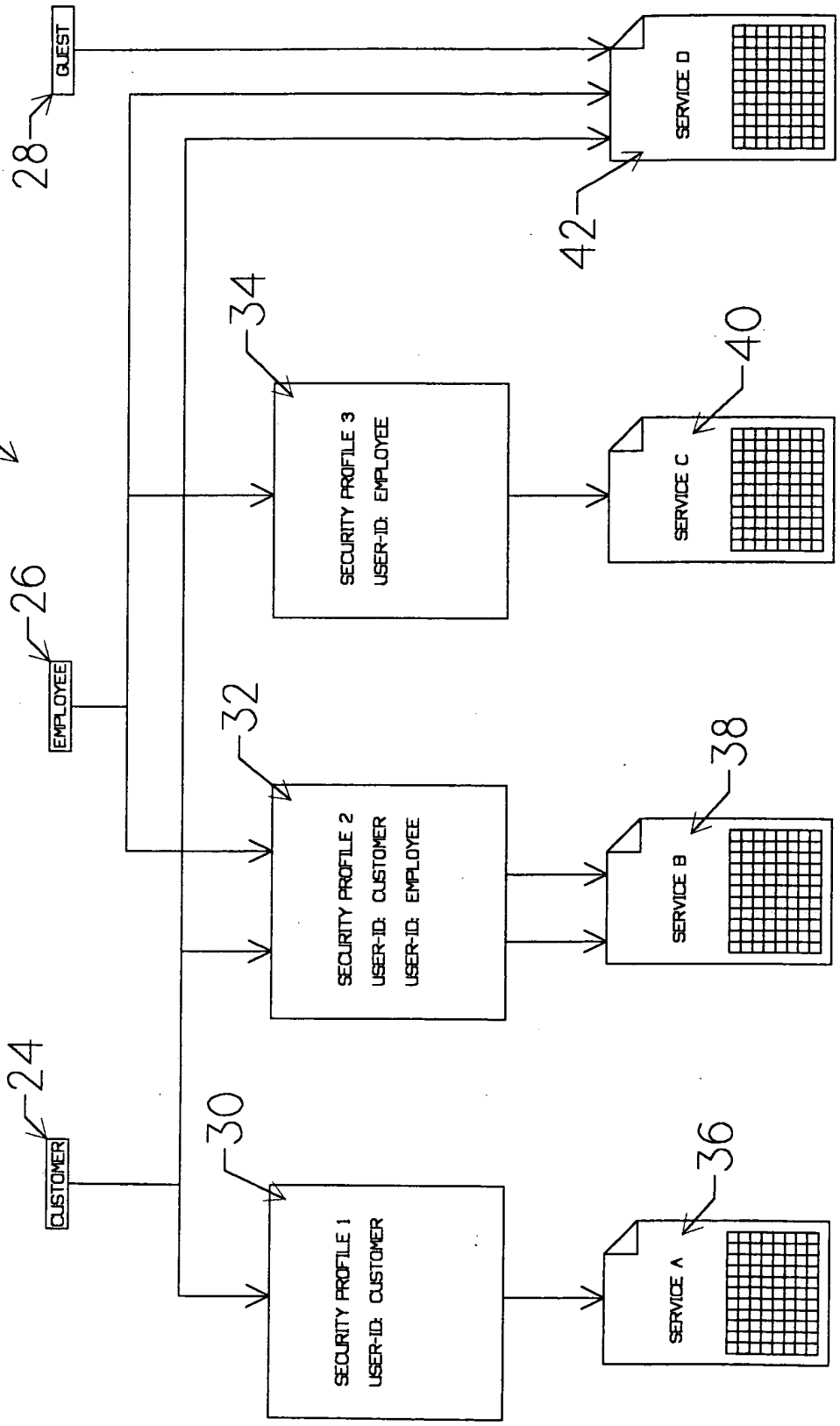

FIG. 2

Express Mail No. ET351442235US
Customer Assignment No. 27516

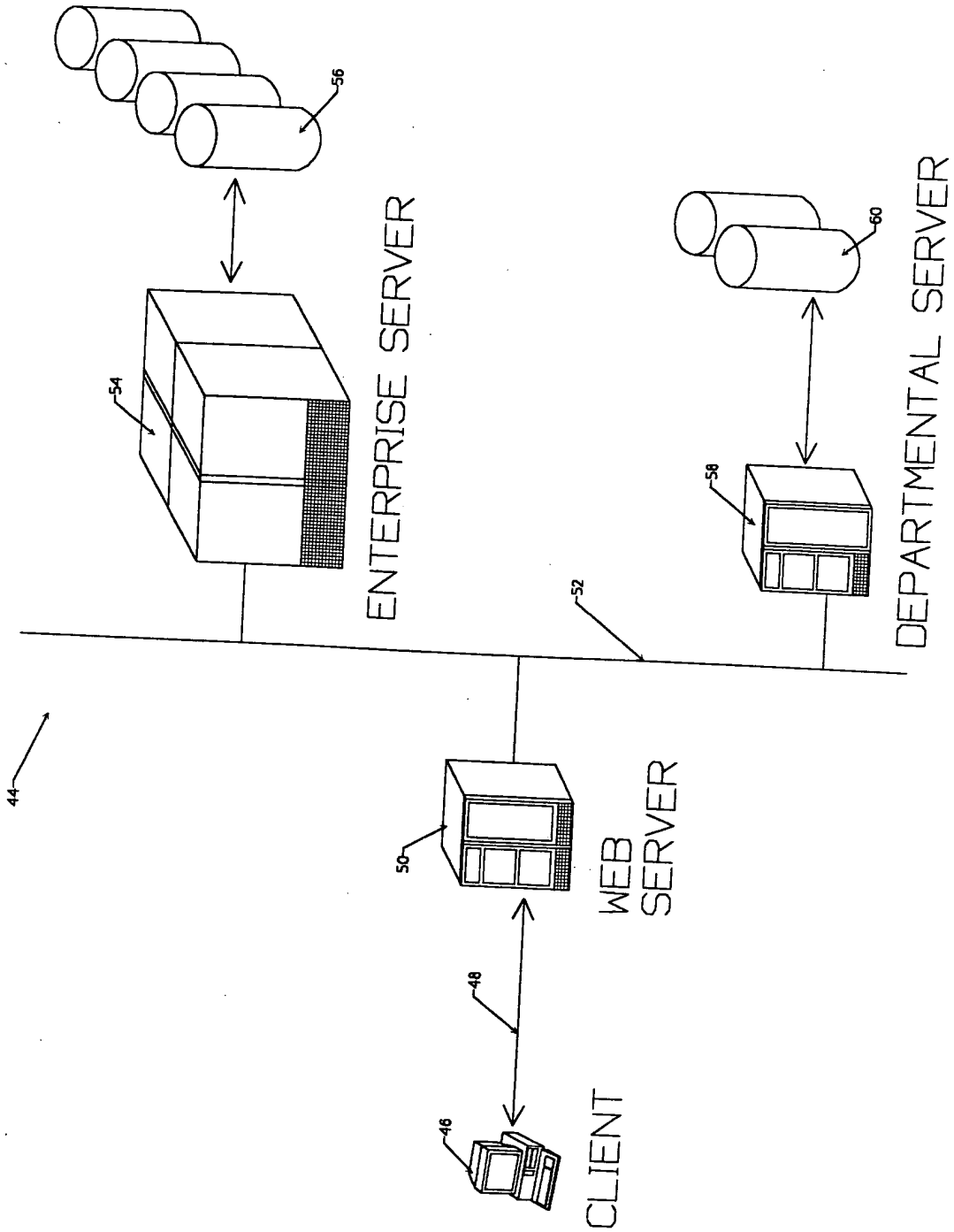

FIG. 3

Patent Application
Filing Date: 12/21/2001
Attorney's Docket No. RA-5411 (33012/329
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 04 of 35
Express Mail No. ET351442235US
Customer Assignment No. 27516

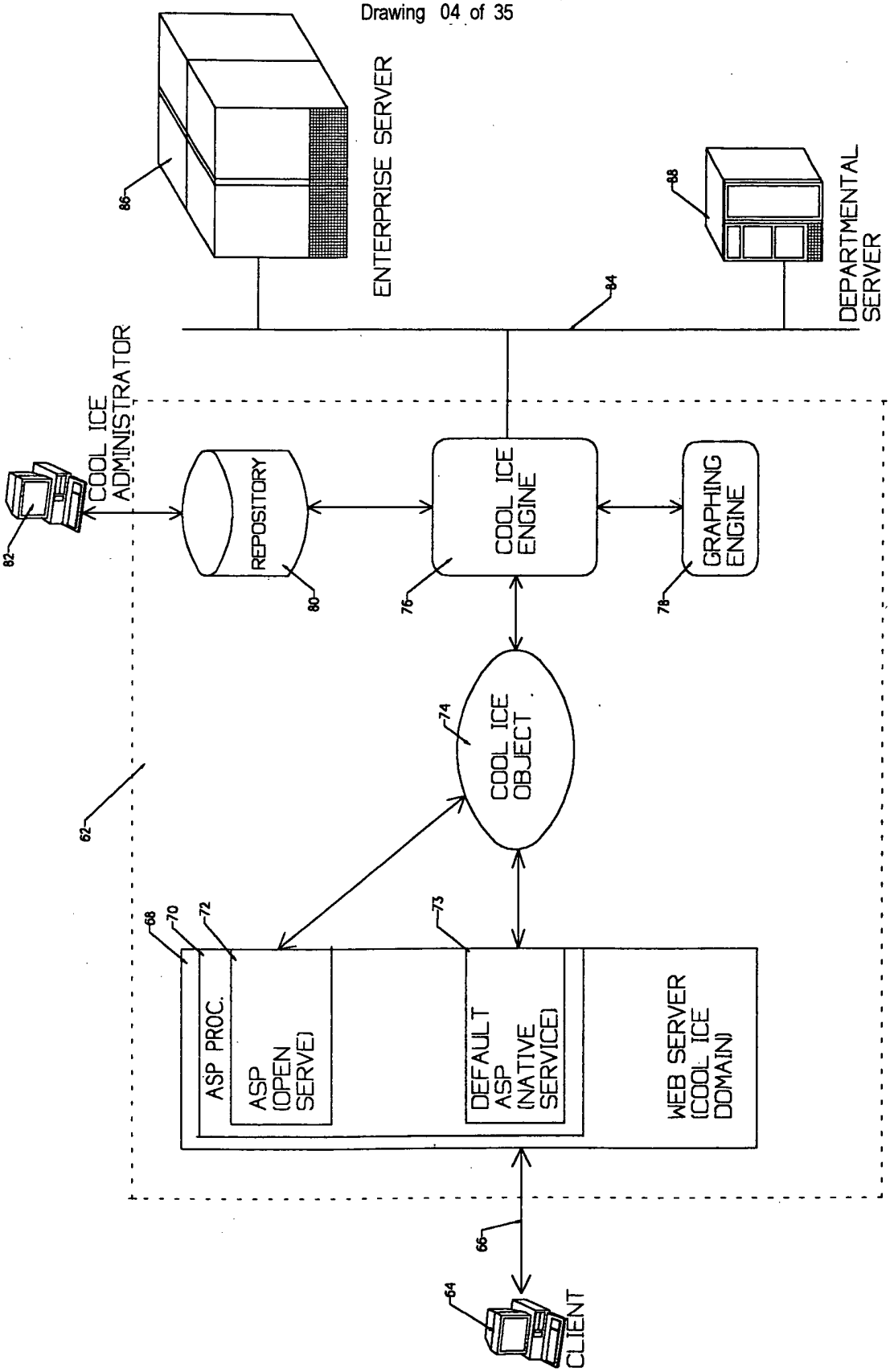

FIG. 4

Patent Application
Filing Date: 12/21/2001
Attorney's Docket No. RA-5411 (33012/329/
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 05 of 35

Express Mail No. ET351442235US
Customer Assignment No. 27516

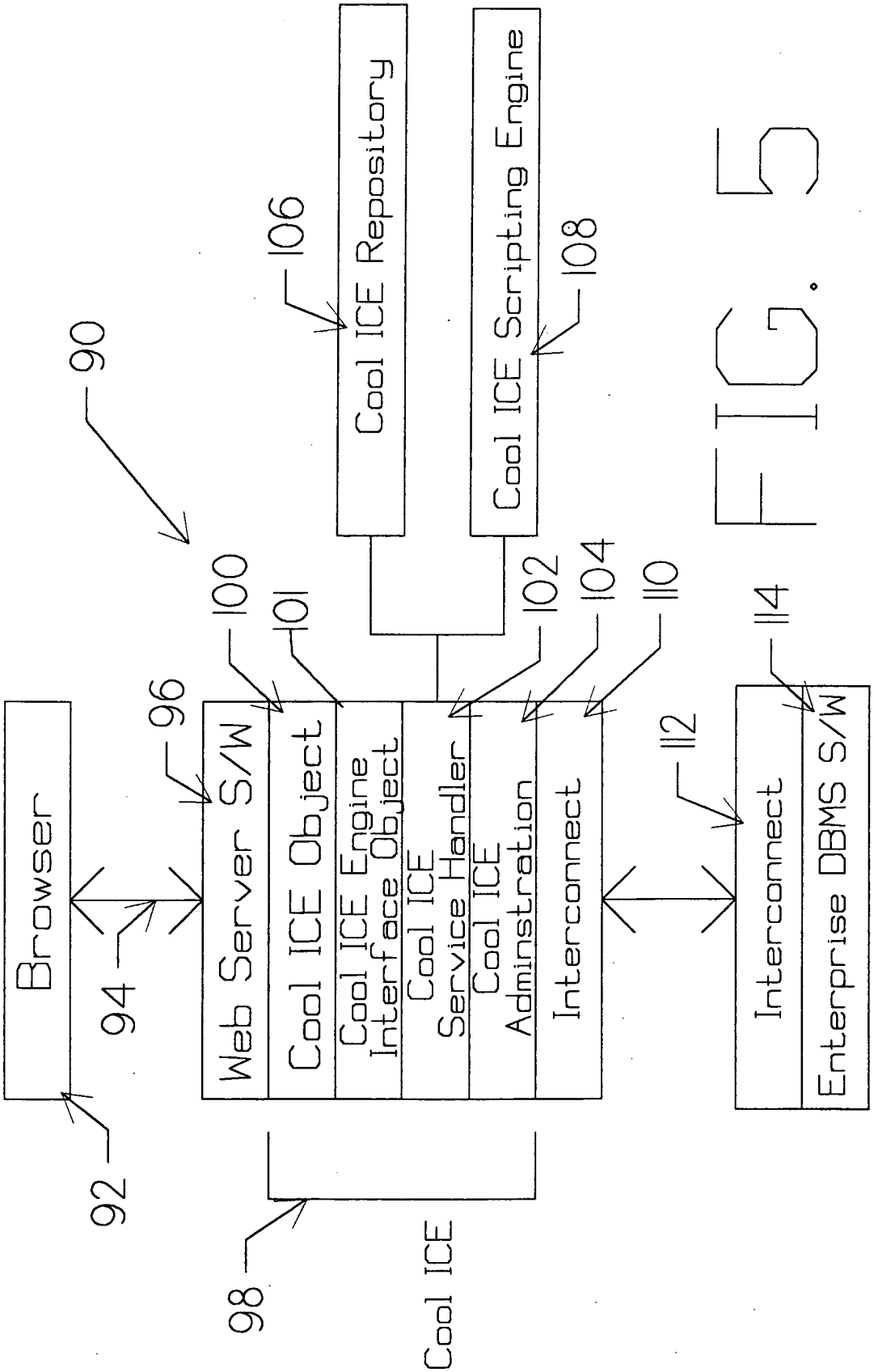

FIG. 5

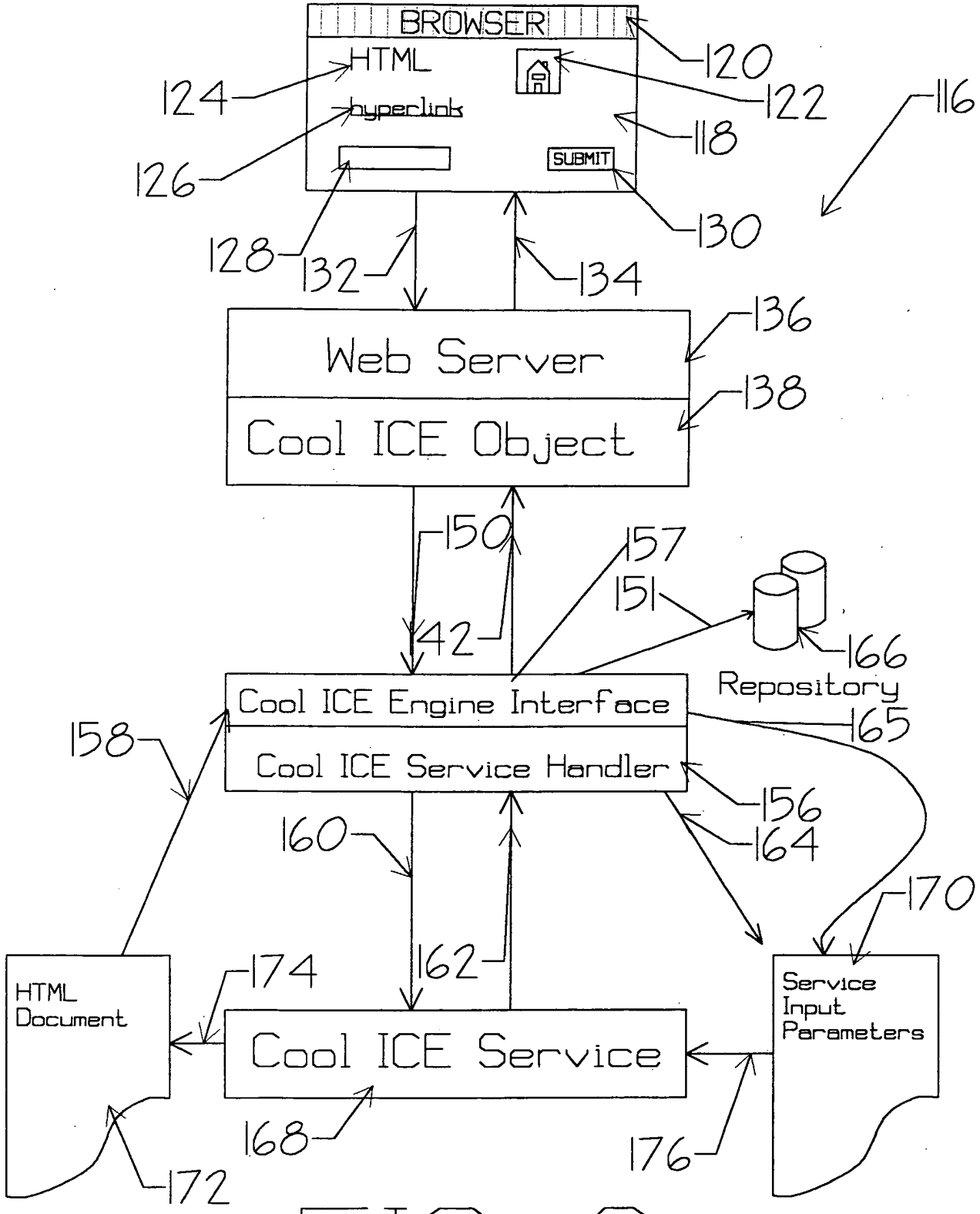
BROWSER
HTML
hyperlink
SUBMIT
120
122
124
126
116
118
128
130
132
134
Web Server
Cool ICE Object
136
138
150
157
151
42
166
Repository
Cool ICE Engine Interface
Cool ICE Service Handler
165
158
156
160
164
170
162
174
HTML Document
Service Input Parameters
Cool ICE Service
168
176
172

FIG. 6

Express Mail No. ET351442235US
Customer Assignment No. 27516

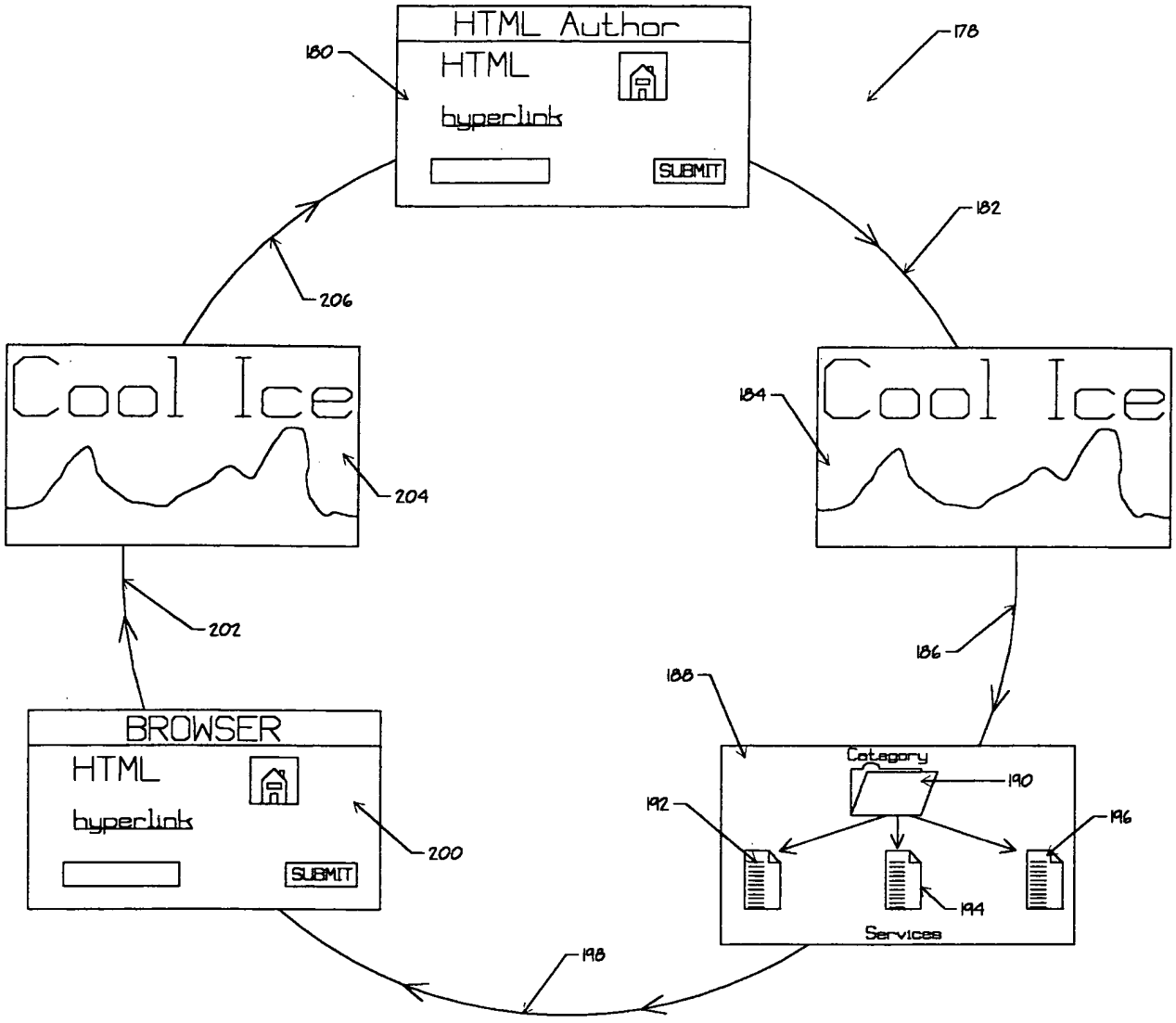

FIG. 7

PATENT 09626867

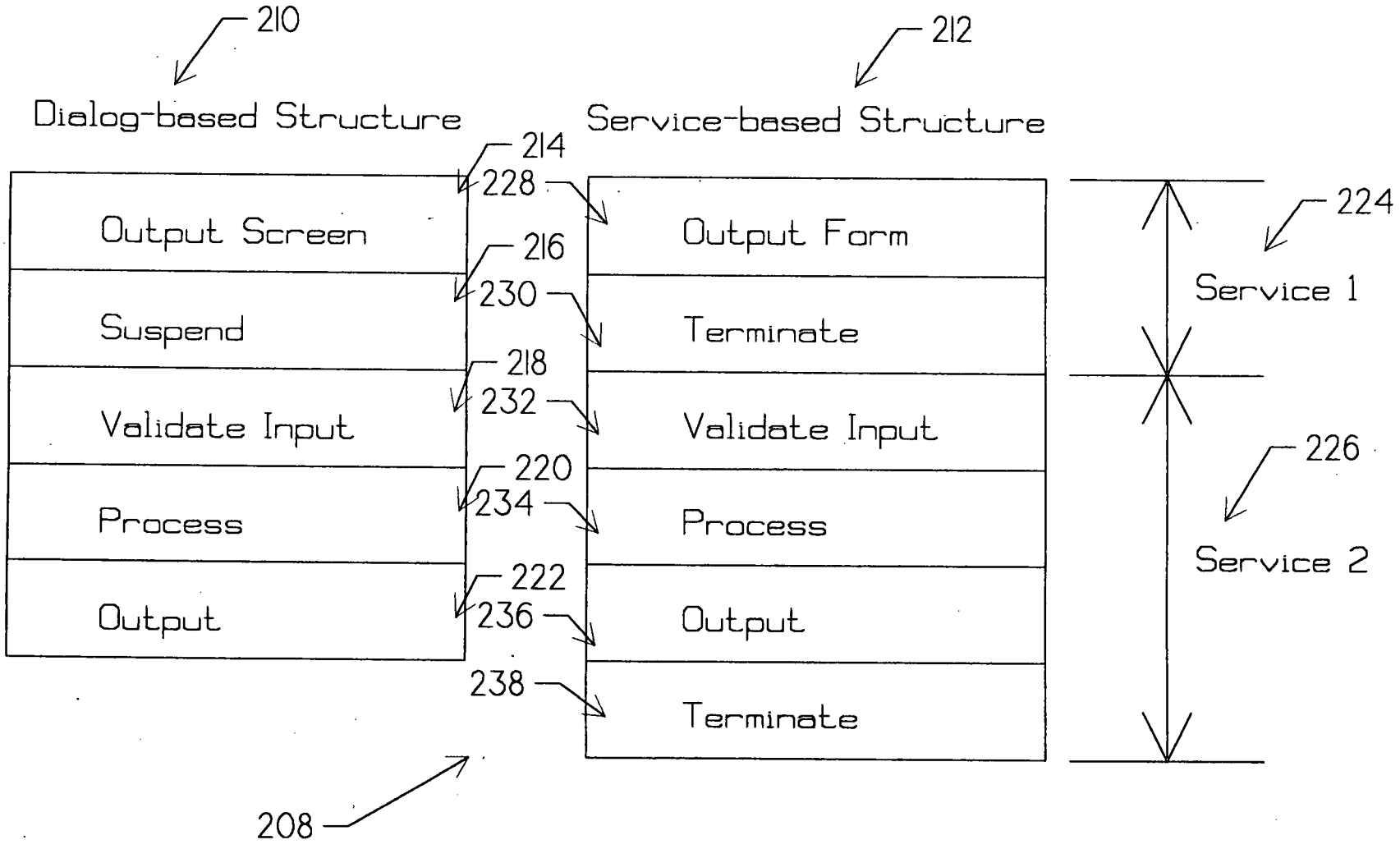

FIG. 8

Patent Application
Filing Date: 12/21/2001
Atty's Docket No. RA-5411 (33012/329/101).
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 08 of 35
Express Mail No. ET351442235US
Customer Assignment No. 27516

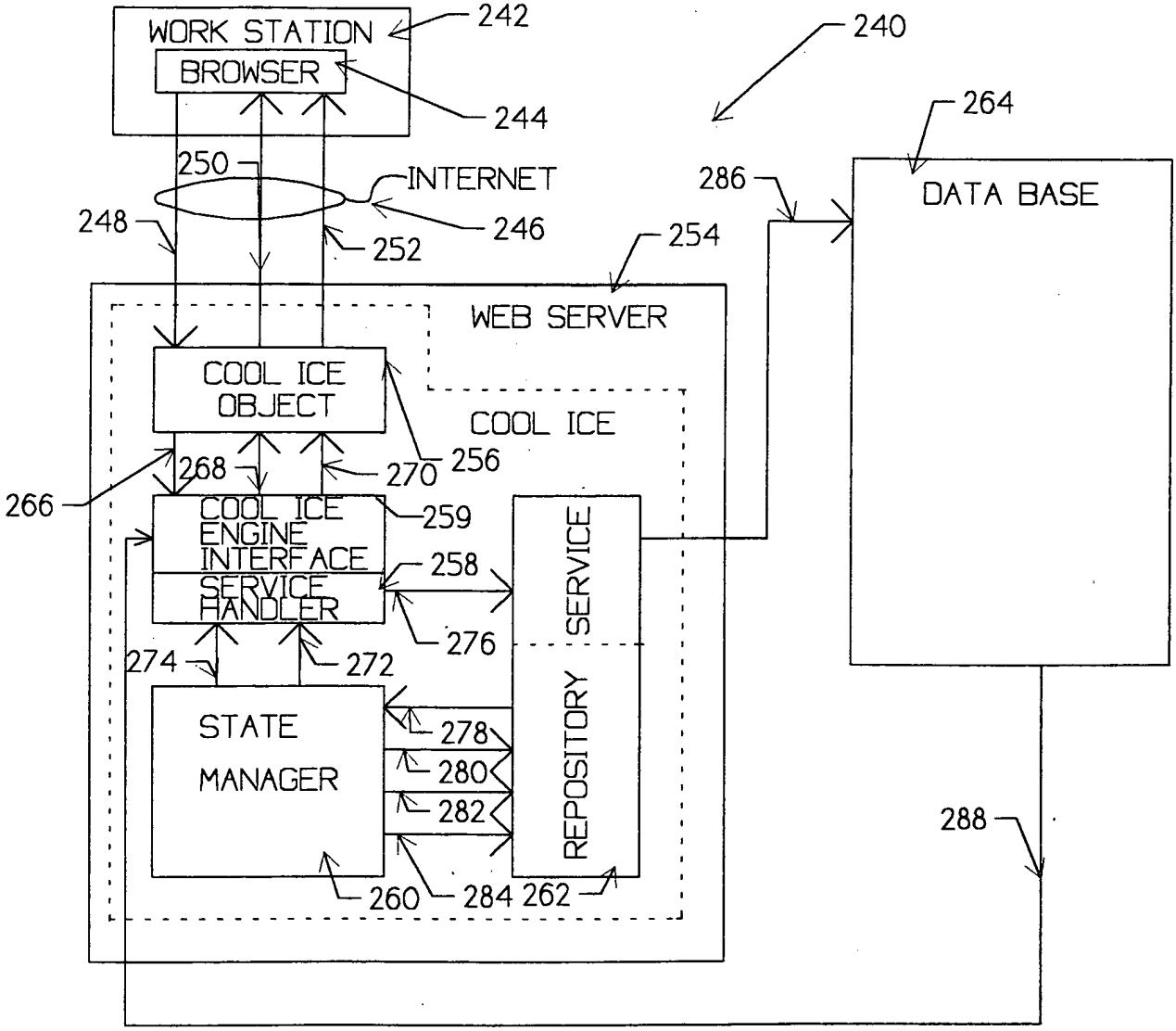
WORK STATION
BROWSER
242
244
240
264
250
INTERNET
286
DATA BASE
248
246
252
254
WEB SERVER
COOL ICE OBJECT
COOL ICE
256
268
270
266
COOL ICE ENGINE INTERFACE
259
SERVICE HANDLER
258
276
SERVICE
274
272
STATE MANAGER
278
280
282
REPOSITORY
288
260
284
262

FIG. 9

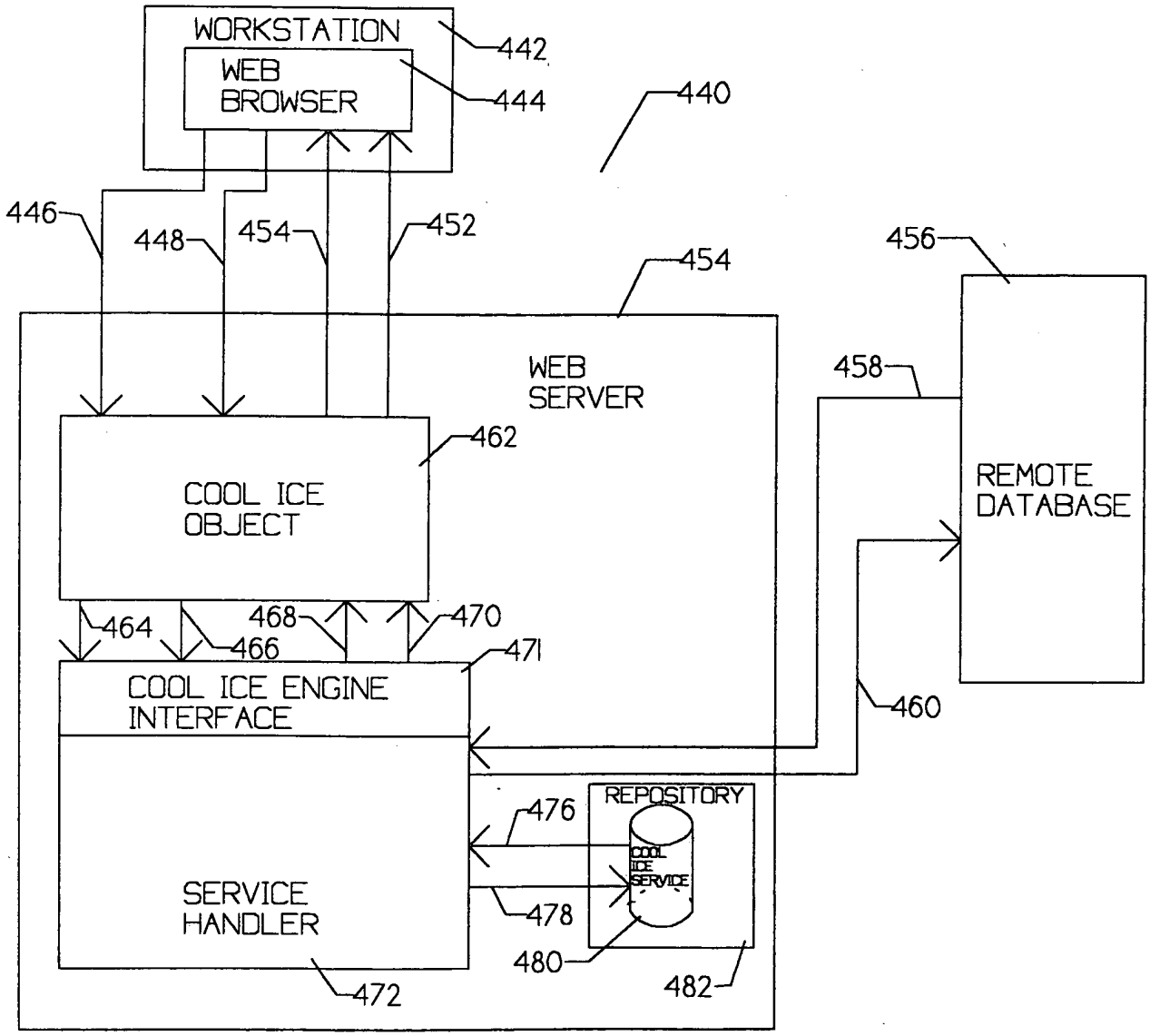
WORKSTATION
WEB BROWSER
442
444
440
446
448
454
452
454
456
458
WEB SERVER
462
COOL ICE OBJECT
REMOTE DATABASE
464
466
468
470
471
COOL ICE ENGINE INTERFACE
460
REPOSITORY
476
COOL ICE SERVICE
SERVICE HANDLER
478
480
482
472

FIG. 10

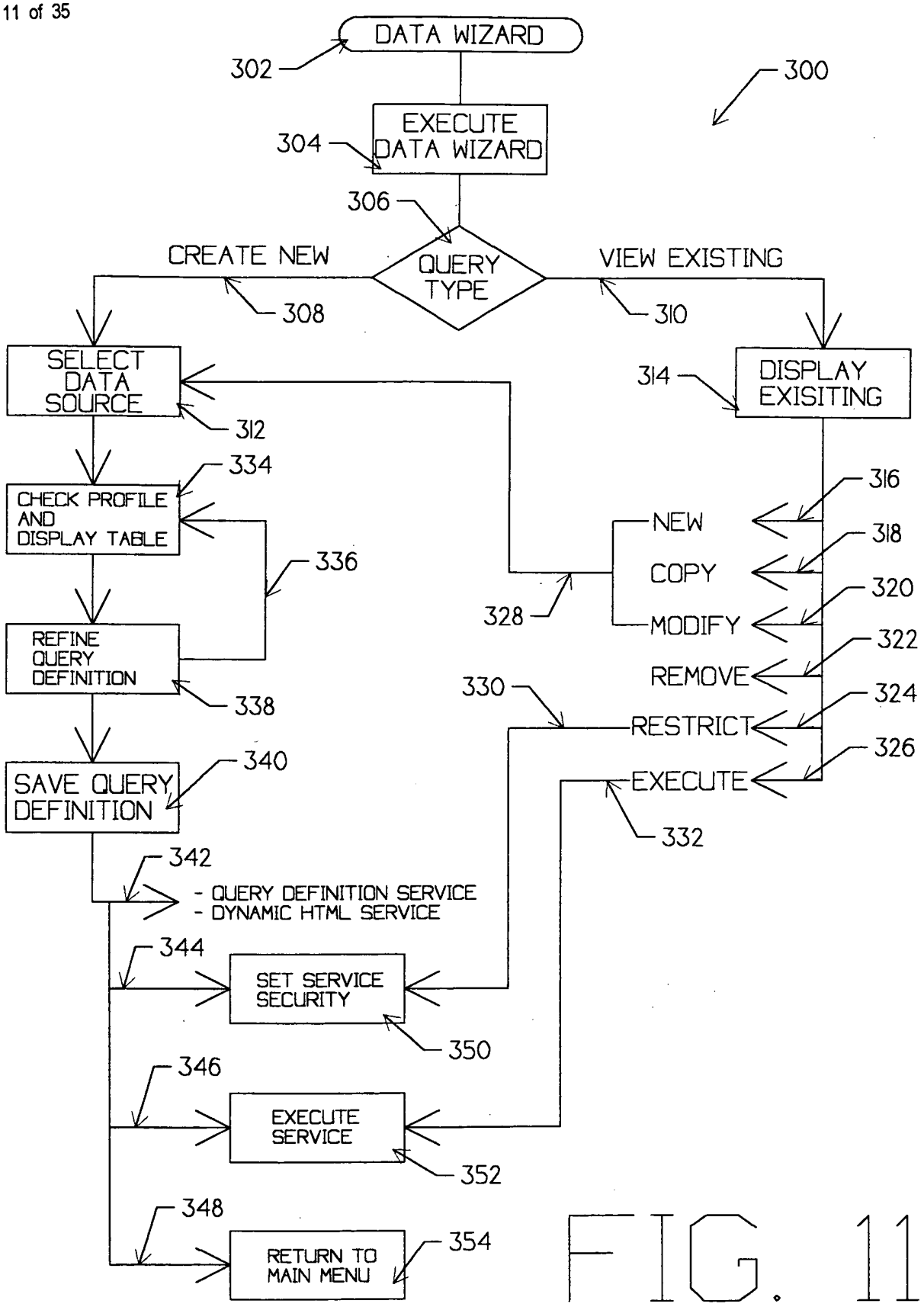
DATA WIZARD
302
300
EXECUTE DATA WIZARD
304
306
QUERY TYPE
CREATE NEW
308
VIEW EXISTING
310
SELECT DATA SOURCE
312
DISPLAY EXISITING
314
316
CHECK PROFILE AND DISPLAY TABLE
334
336
NEW
318
COPY
320
328
MODIFY
322
REFINE QUERY DEFINITION
338
REMOVE
330
324
RESTRICT
326
SAVE QUERY DEFINITION
340
EXECUTE
332
342
- QUERY DEFINITION SERVICE
- DYNAMIC HTML SERVICE
344
SET SERVICE SECURITY
350
346
EXECUTE SERVICE
352
348
RETURN TO MAIN MENU
354

FIG. 11

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Attorney's Docket No. RA-5411 (33012/32
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 12 of 35
Express Mail No. ET351442235US
Customer Assignment No. 27516

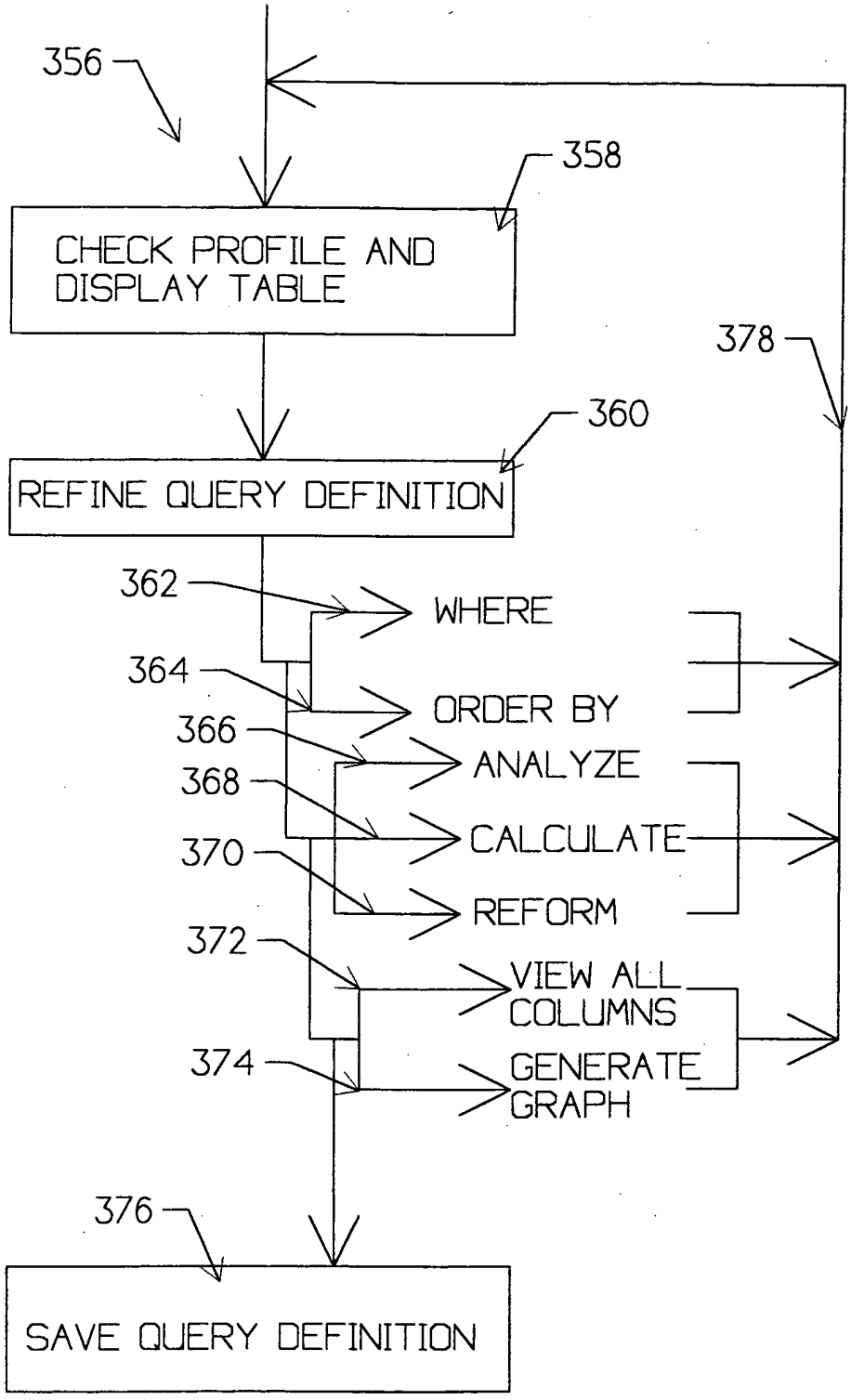

FIG. 12

Express Mail No. ET351442235US
Customer Assignment No. 27516

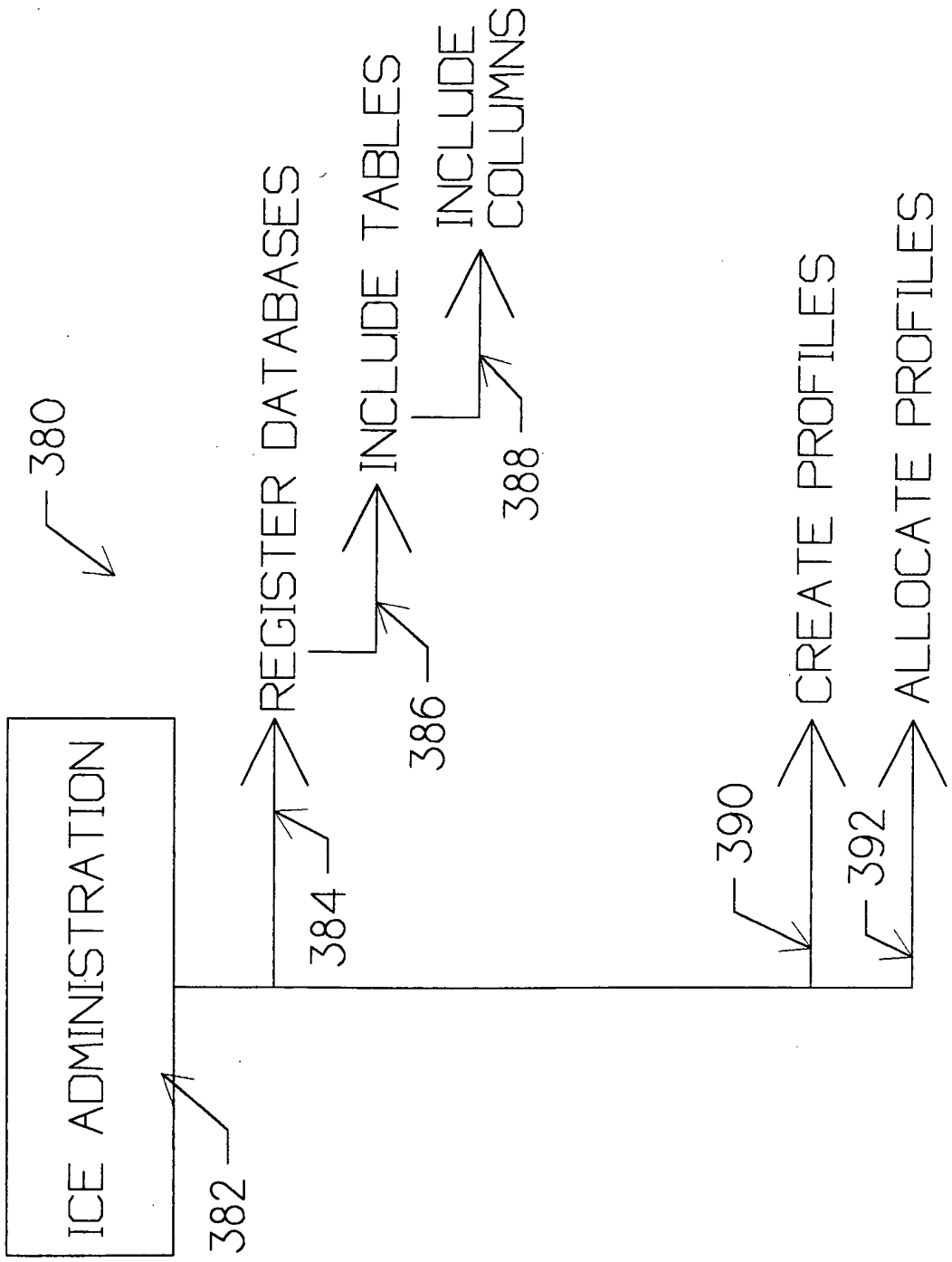

FIG. 13

Patent Application
Filing Date: 12/21/2001
Attorney's Docket No. RA-5[illegible]3012/329/101)
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 14 of 35

Express Mail No. ET351442235US
Customer Assignment No. 27516

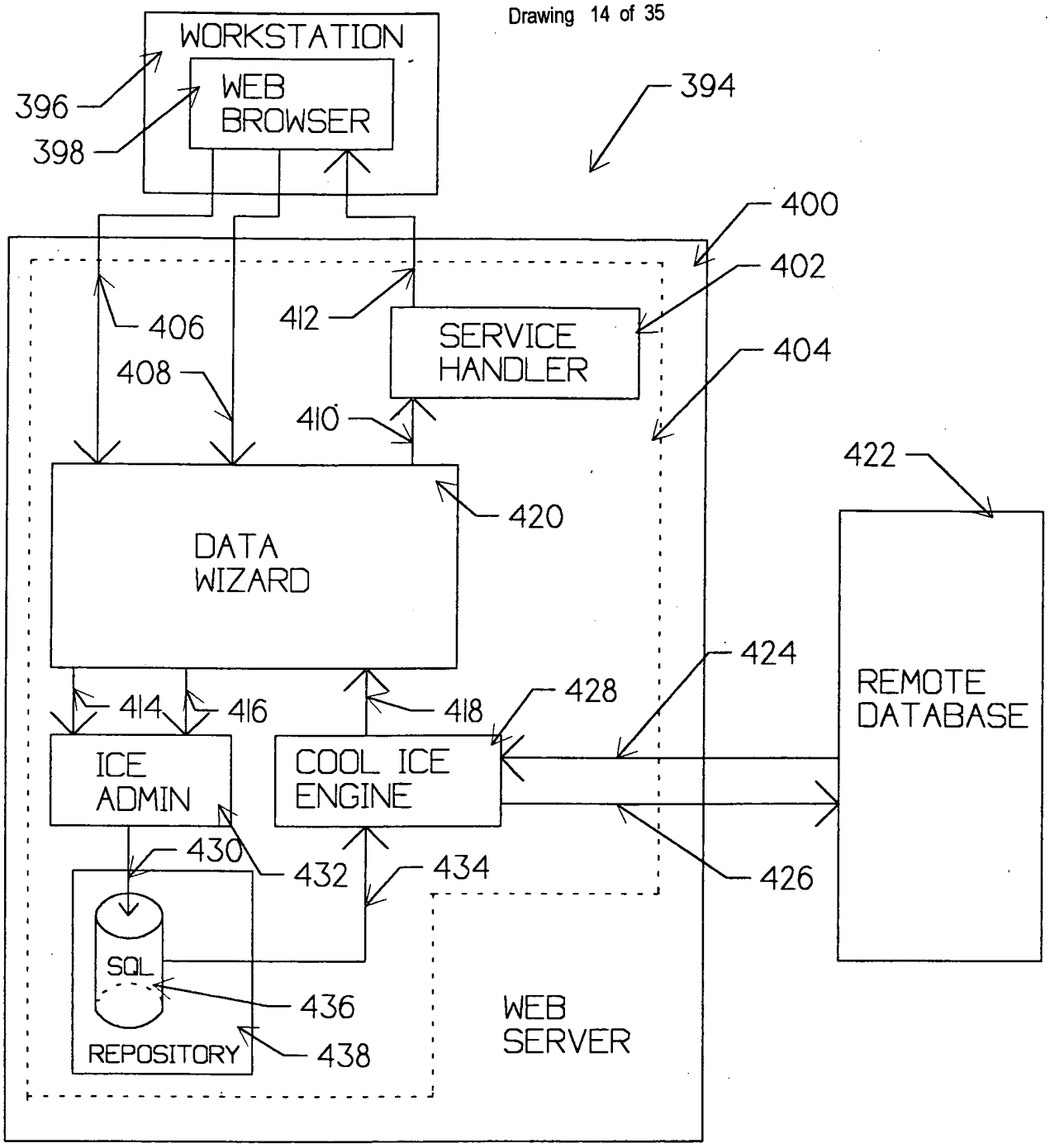

FIG. 14

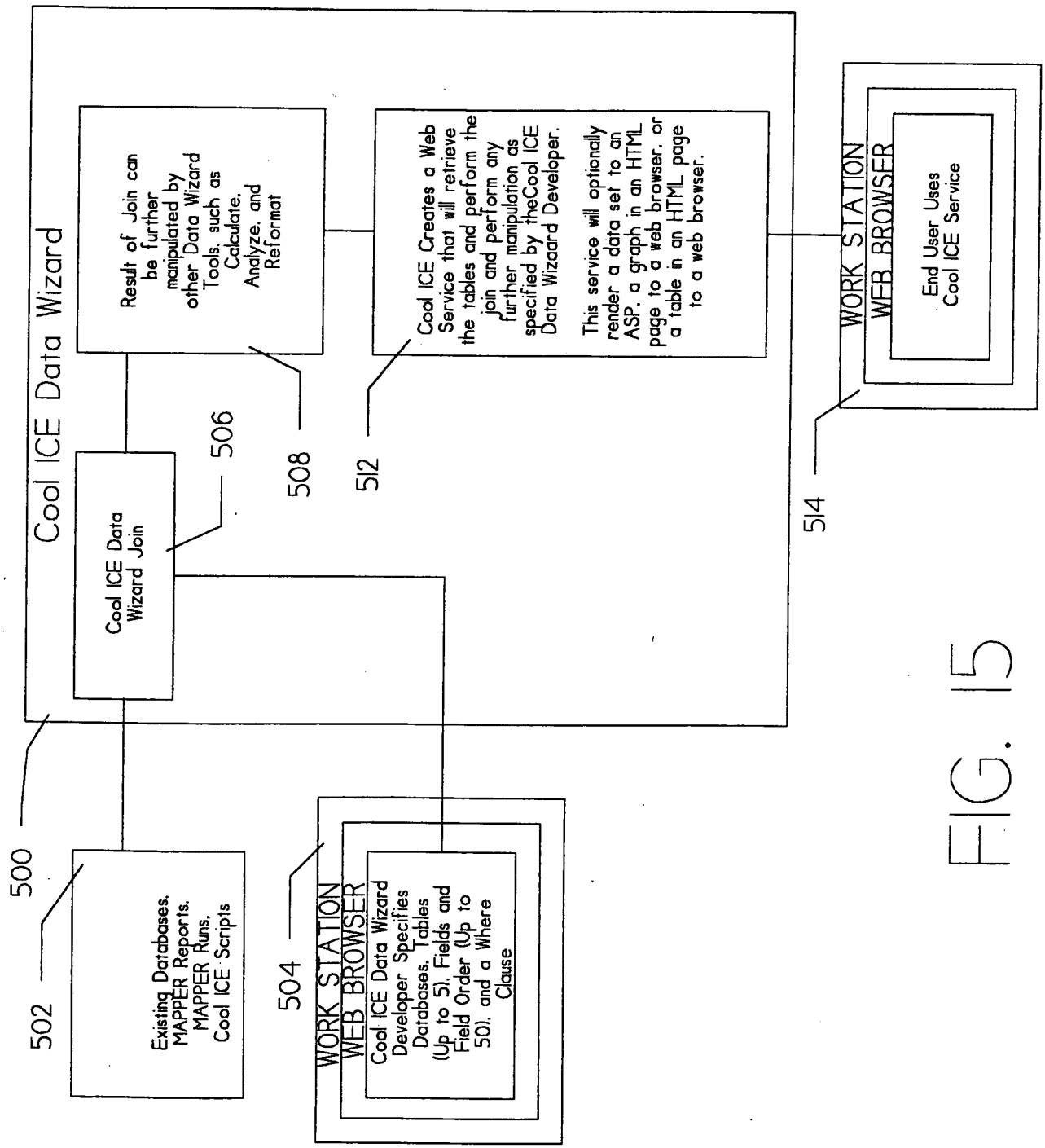
Cool ICE Data Wizard
Result of Join can be further manipulated by other Data Wizard Tools. such as Calculate. Analyze. and Reformat
Cool ICE Creates a Web Service that will retrieve the tables and perform the join and perform any further manipulation as specified by theCool ICE Data Wizard Developer.
This service will optionally render a data set to an ASP. a graph in an HTML page to a web browser. or a table in an HTML page to a web browser.
WORK STATION WEB BROWSER
End User Uses Cool ICE Service
Cool ICE Data Wizard Join
506
508
512
514
500
502
Existing Databases. MAPPER Reports. MAPPER Runs. Cool ICE Scripts
504
WORK STATION WEB BROWSER
Cool ICE Data Wizard Developer Specifies Databases. Tables (Up to 5). Fields and Field Order (Up to 50). and a Where Clause

FIG. 15

Express Mail No. ET351442235US
Customer Assignment No. 27516

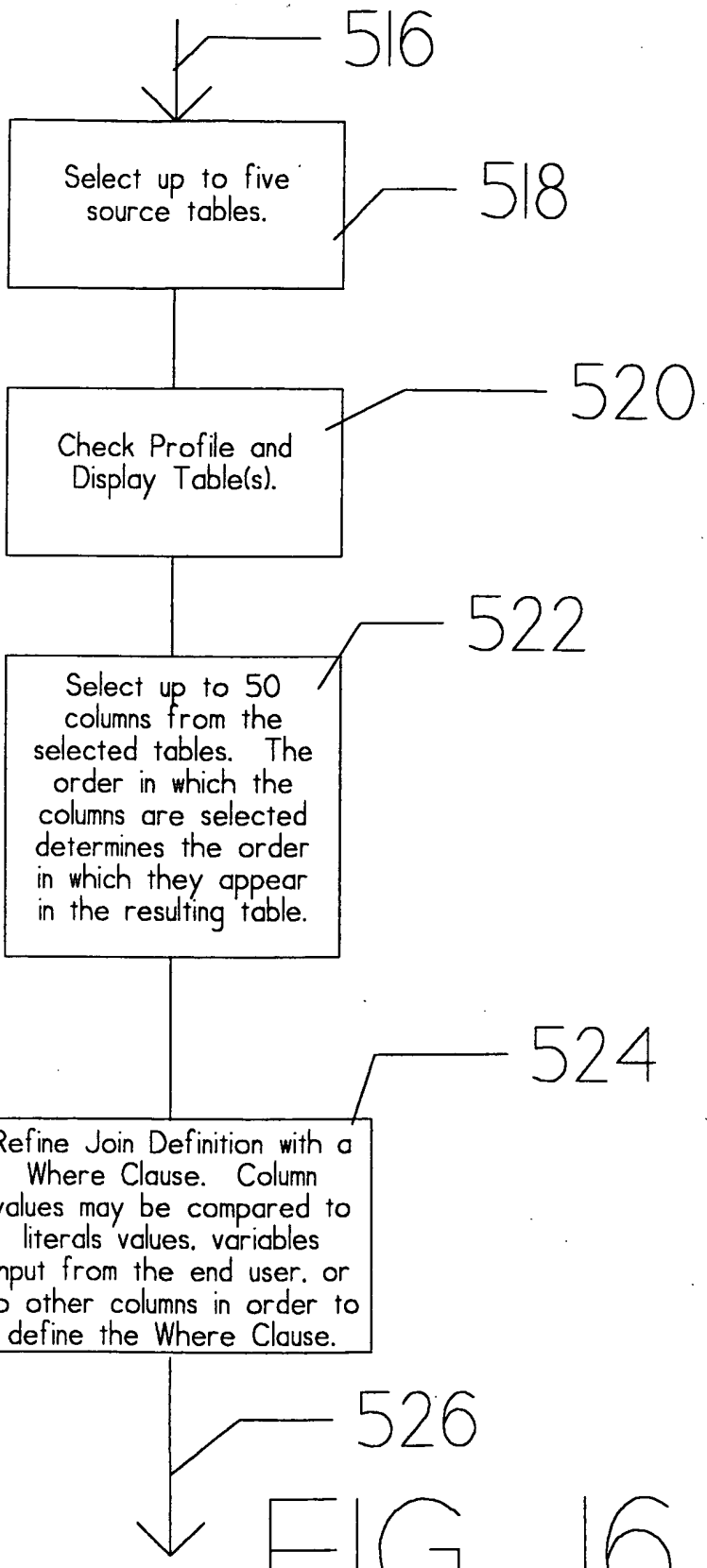

FIG. 16

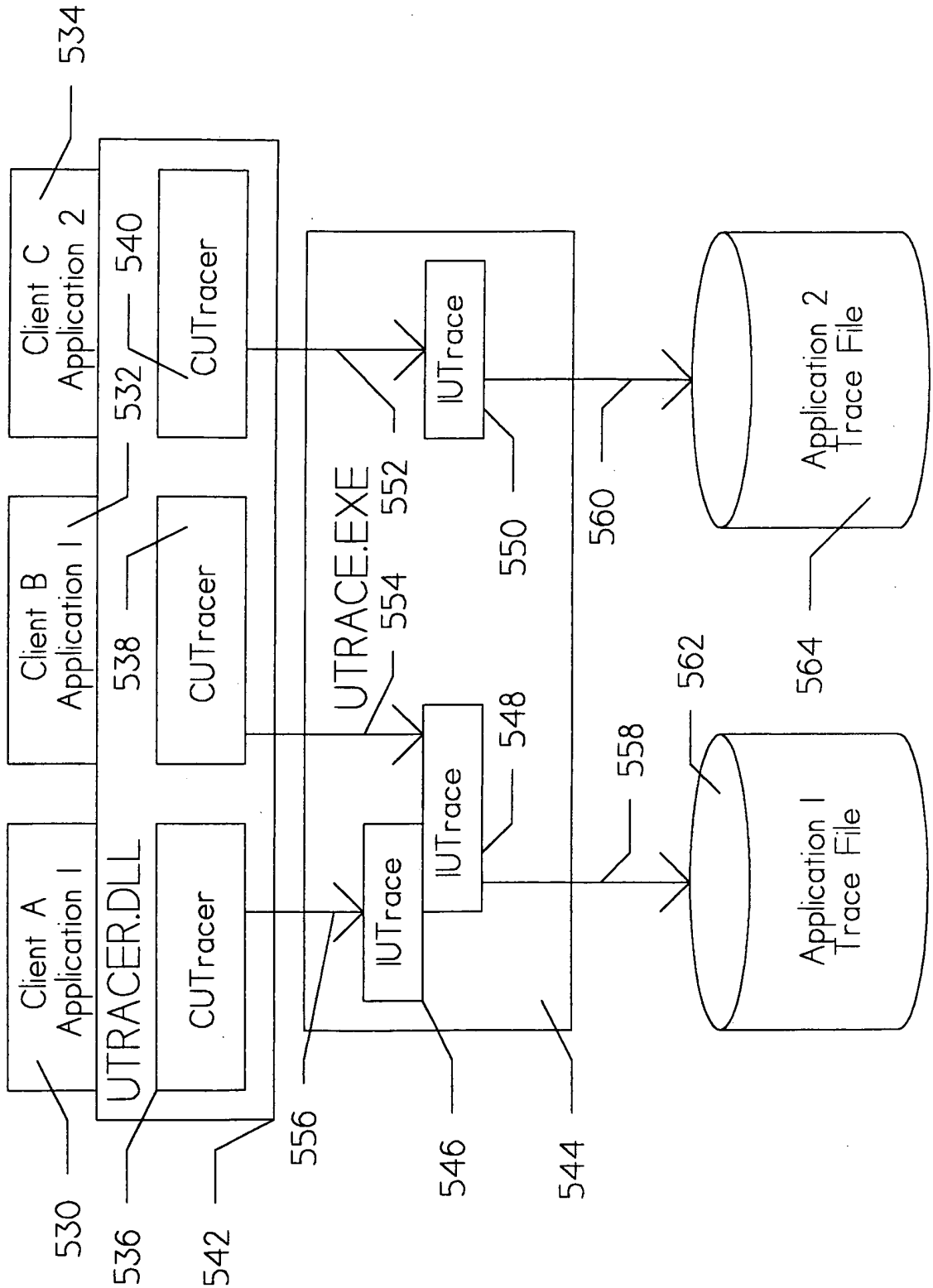
Client A Application 1
Client B Application 1
Client C Application 2
UTRACER.DLL
CUTracer
CUTracer
CUTracer
UTRACE.EXE
IUTrace
IUTrace
IUTrace
Application 1 Trace File
Application 2 Trace File
530
532
534
536
538
540
542
544
546
548
550
552
554
556
558
560
562
564

FIG. 17

HKLM\SOFTWARE\UNISYS\UTRACE

APPNAME -- Subkey matching the name of the application 565

- ENABLETRACE -- DWORD value indication a Boolean (1=trace,, 0=no trace).
- MAXENTRIES -- DWORD value indicating the maximum number of entries in the trace file. If missing. then no upper limit is imposed.
- FORMATFLAGS -- DWORD value indicating message formatting flags.
- POLICYFLAGS -- DWORD value indicating trace policy flags set for the application.
- TRACELEVEL -- DWORD value indicating a trace level. 0 = no trace.
- TRACEPATH -- String value indicating the directory path for the trace files.
- REGTRACE -- A string value containing the HKLM\Software sub key to trace for this application. Blank or missing for no registry trace.
- COMPONENT -- A subkey for a specific component of the application.
  - POLICYFLAGS -- Value indicating component level trace policy flags
  - TRACELEVEL -- DWORD Value indicating a trace level. 0 = no trace.
  - VERSIONTRACE-- String value specifying executable component name for version information tracing.

FIG. 18

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Applicant: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 18 of 35
Express Mail No. ET351442235US
Customer Assignment No. 27516

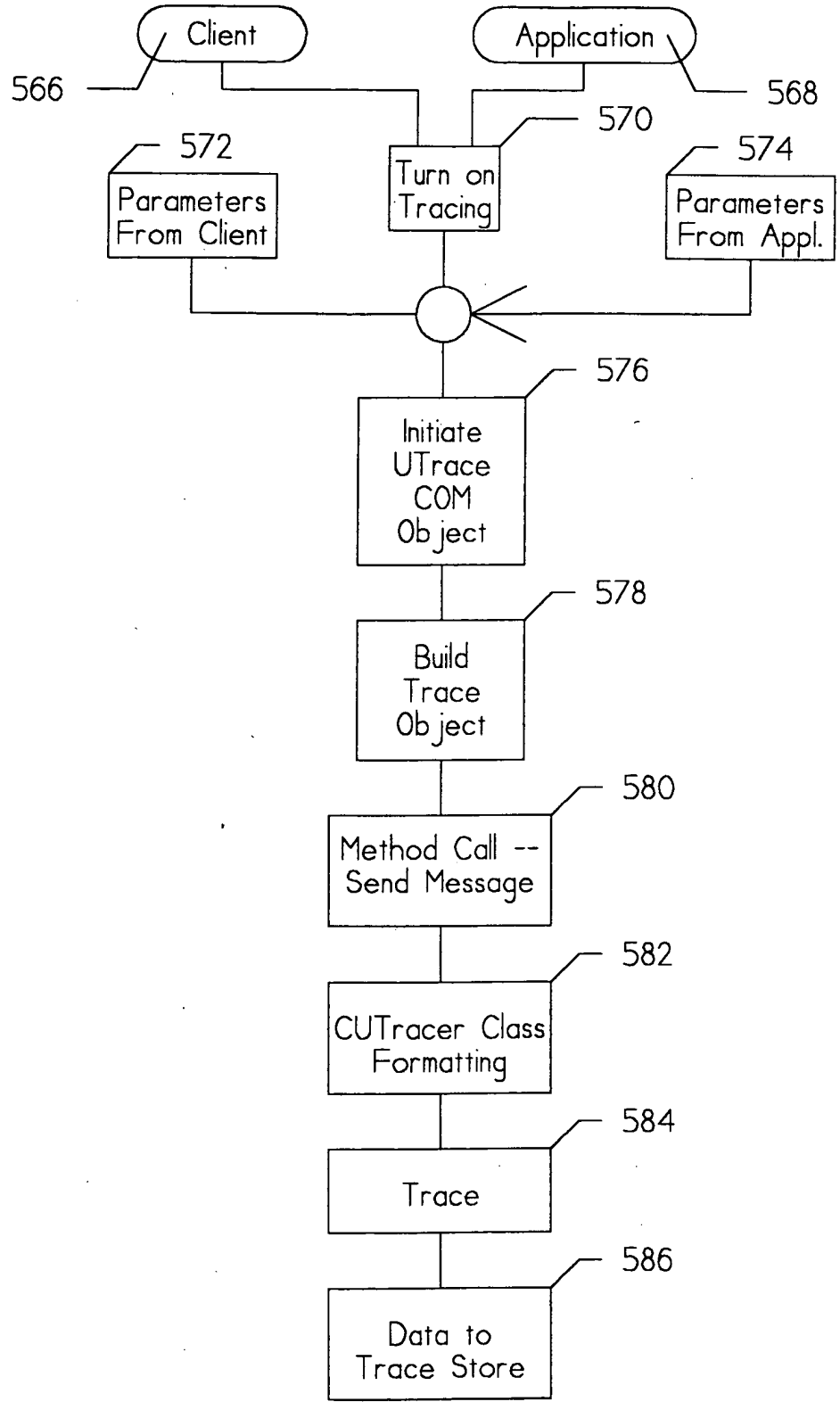
Client
Application
566
568
570
572
574
Turn on Tracing
Parameters From Client
Parameters From Appl.
576
Initiate UTrace COM Object
578
Build Trace Object
580
Method Call -- Send Message
582
CUTracer Class Formatting
584
Trace
586
Data to Trace Store

FIG. 19

Express Mail No. ET351442235US
Customer Assignment No. 27516

```
#define CI_TRACE_VERSION        0x1
#define CI_TRACE_ERROR          0x2
#define CI_TRACE_INTERFACE      0x4
#define CI_TRACE_FLOW           0x8
#define CI_TRACE_DETAIL         0x10
```

FIG. 20A

```
if (m_trace. Active(C)_TRACE_DETAIL))
m_trace<<"MY Detailed Trace information"<<Localvariable<<traceit
```

FIG. 20B

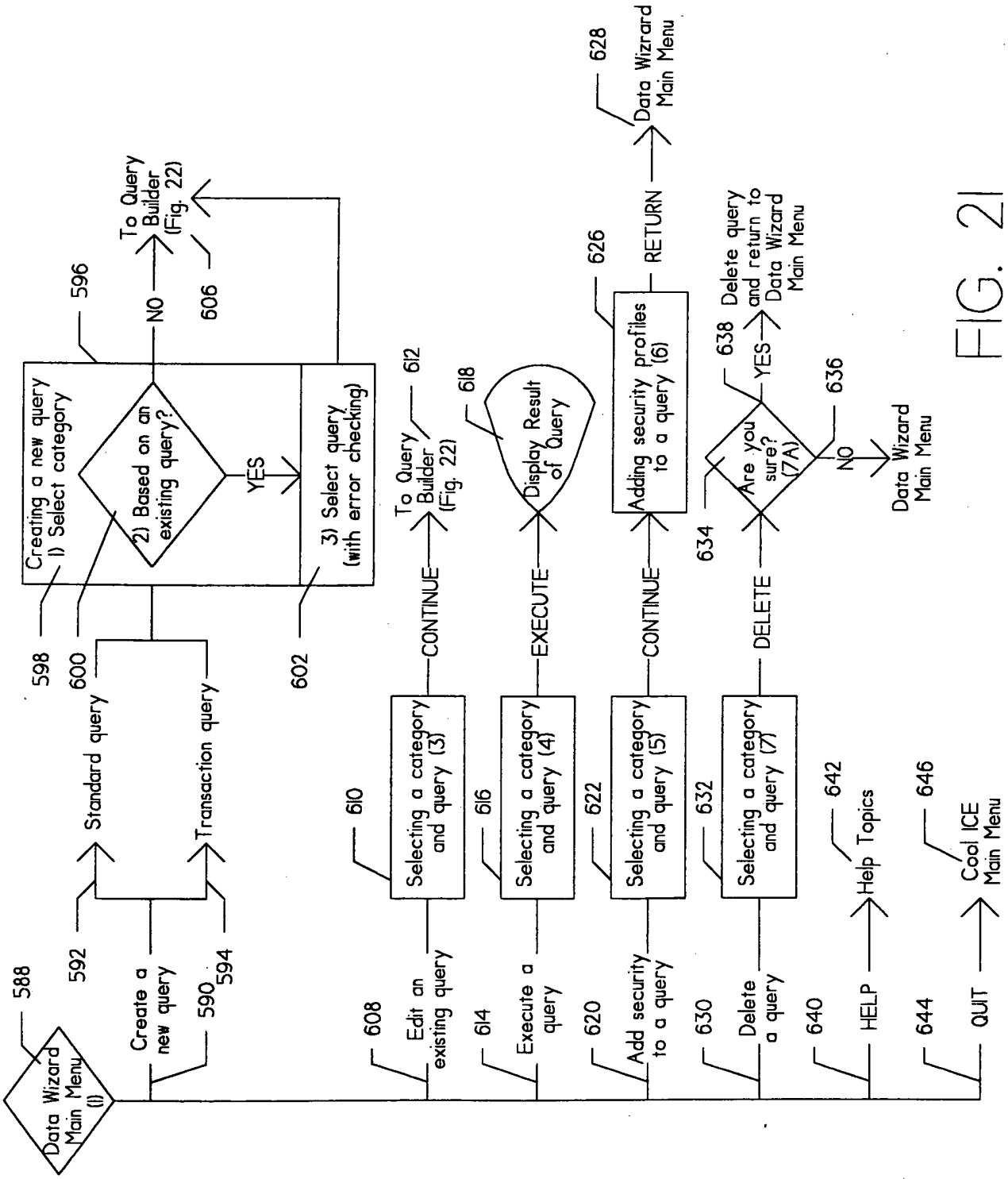
588
Data Wizard Main Menu (1)
592
Create a new query
590
594
Standard query
Transaction query
598
600
602
Creating a new query 1) Select category
2) Based on an existing query?
YES
3) Select query (with error checking)
596
NO
606
To Query Builder (Fig. 22)
608
Edit an existing query
610
Selecting a category and query (3)
CONTINUE
612
To Query Builder (Fig. 22)
614
Execute a query
616
Selecting a category and query (4)
EXECUTE
618
Display Result of Query
620
Add security to a query
622
Selecting a category and query (5)
CONTINUE
626
Adding security profiles to a query (6)
RETURN
628
Data Wizrard Main Menu
630
Delete a query
632
Selecting a category and query (7)
DELETE
634
Are you sure? (7A)
YES
638
Delete query and return to Data Wizard Main Menu
NO
636
Data Wizard Main Menu
640
HELP
642
Help Topics
644
QUIT
646
Cool ICE Main Menu

FIG. 21

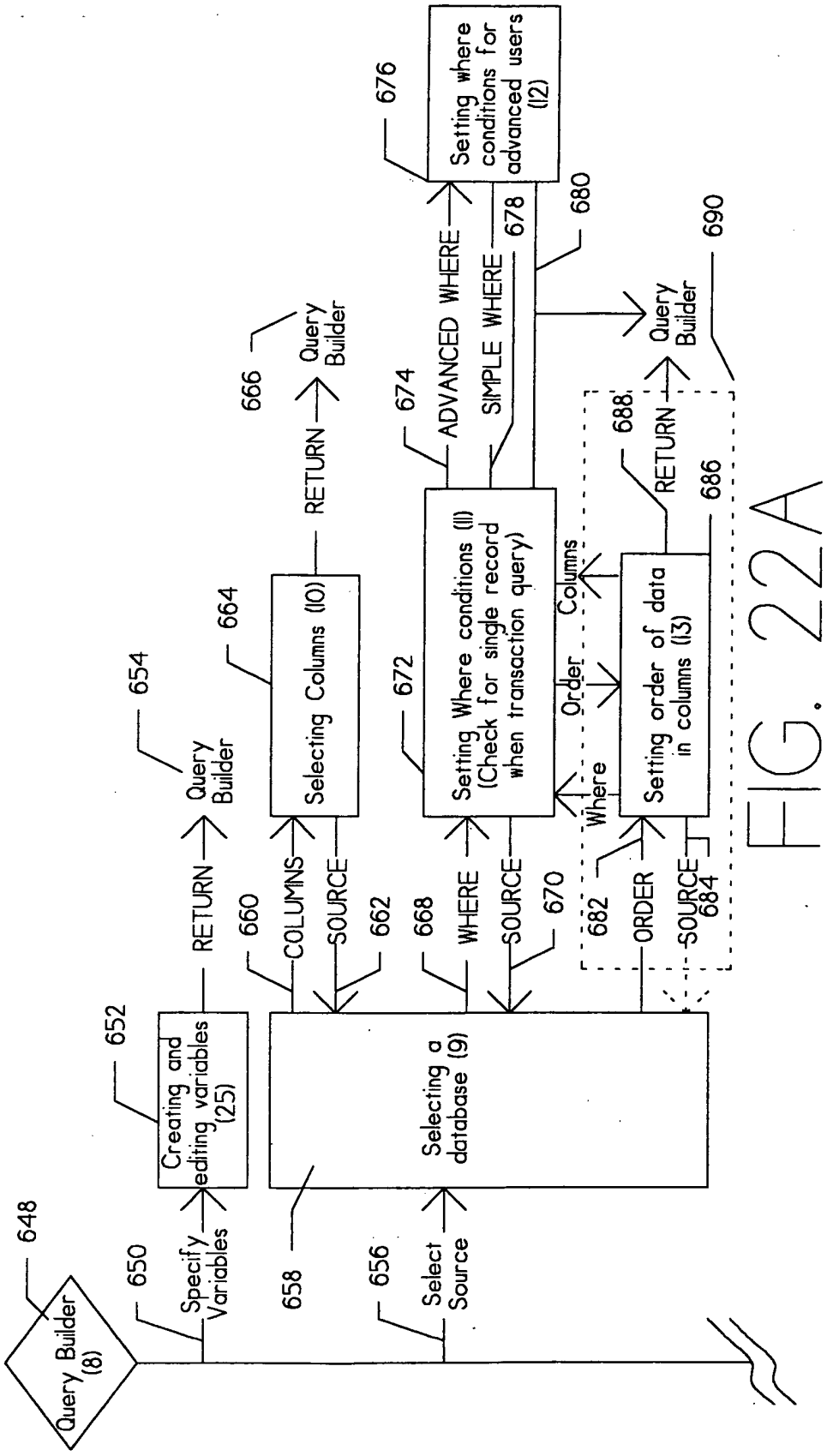
Query Builder (8)
648
Specify Variables
650
Creating and editing variables (25)
652
RETURN
654
Query Builder
656
Select Source
658
Selecting a database (9)
COLUMNS
660
SOURCE
662
Selecting Columns (10)
664
RETURN
666
Query Builder
WHERE
668
SOURCE
670
Setting Where conditions (11) (Check for single record when transaction query)
672
ADVANCED WHERE
674
SIMPLE WHERE
678
Setting where conditions for advanced users (12)
676
680
Query Builder
690
Columns
Where
682
Order
ORDER
Setting order of data in columns (13)
686
RETURN
688
SOURCE
684

FIG. 22A

Express Mail No. ET351442235US
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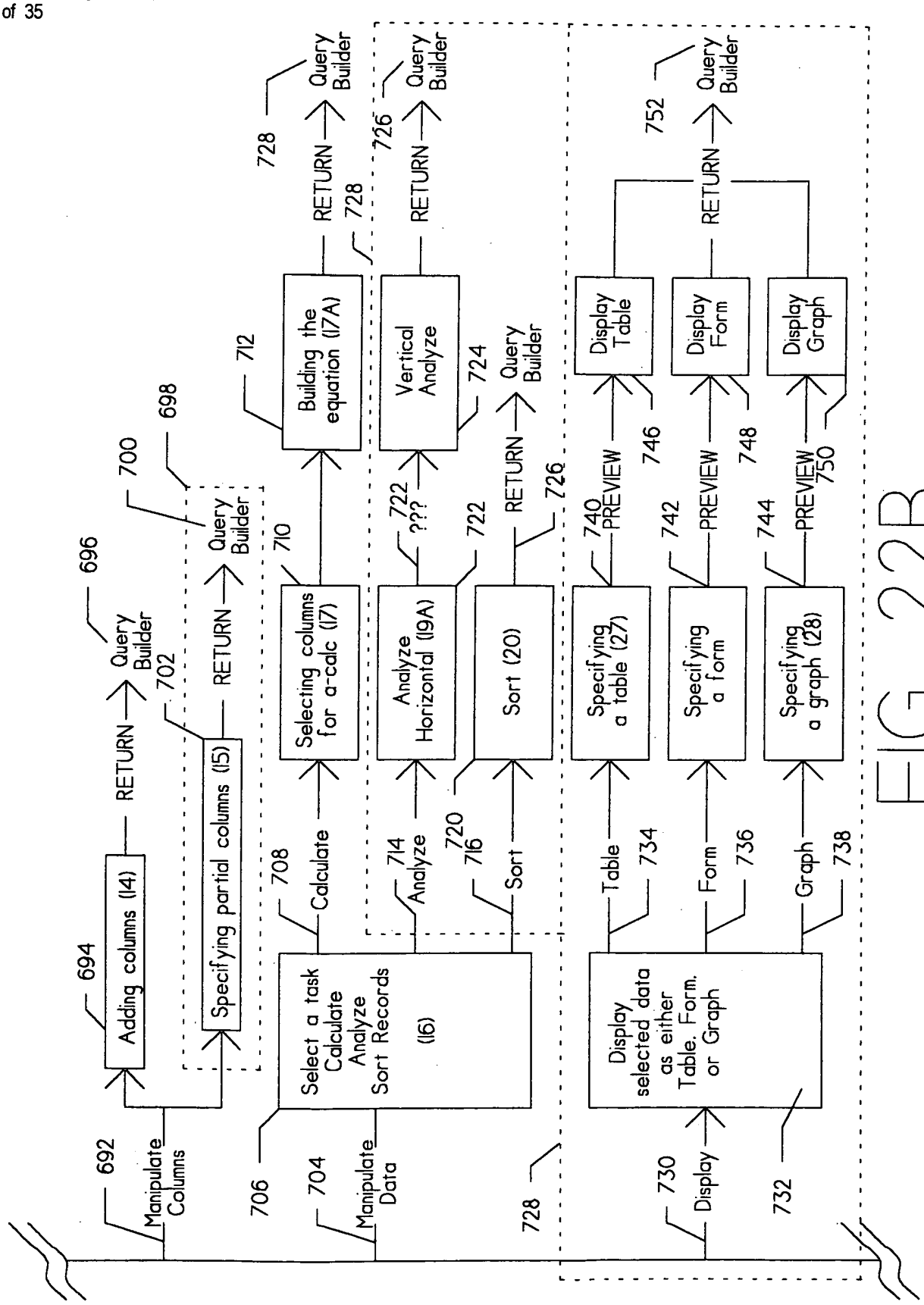

FIG. 22B

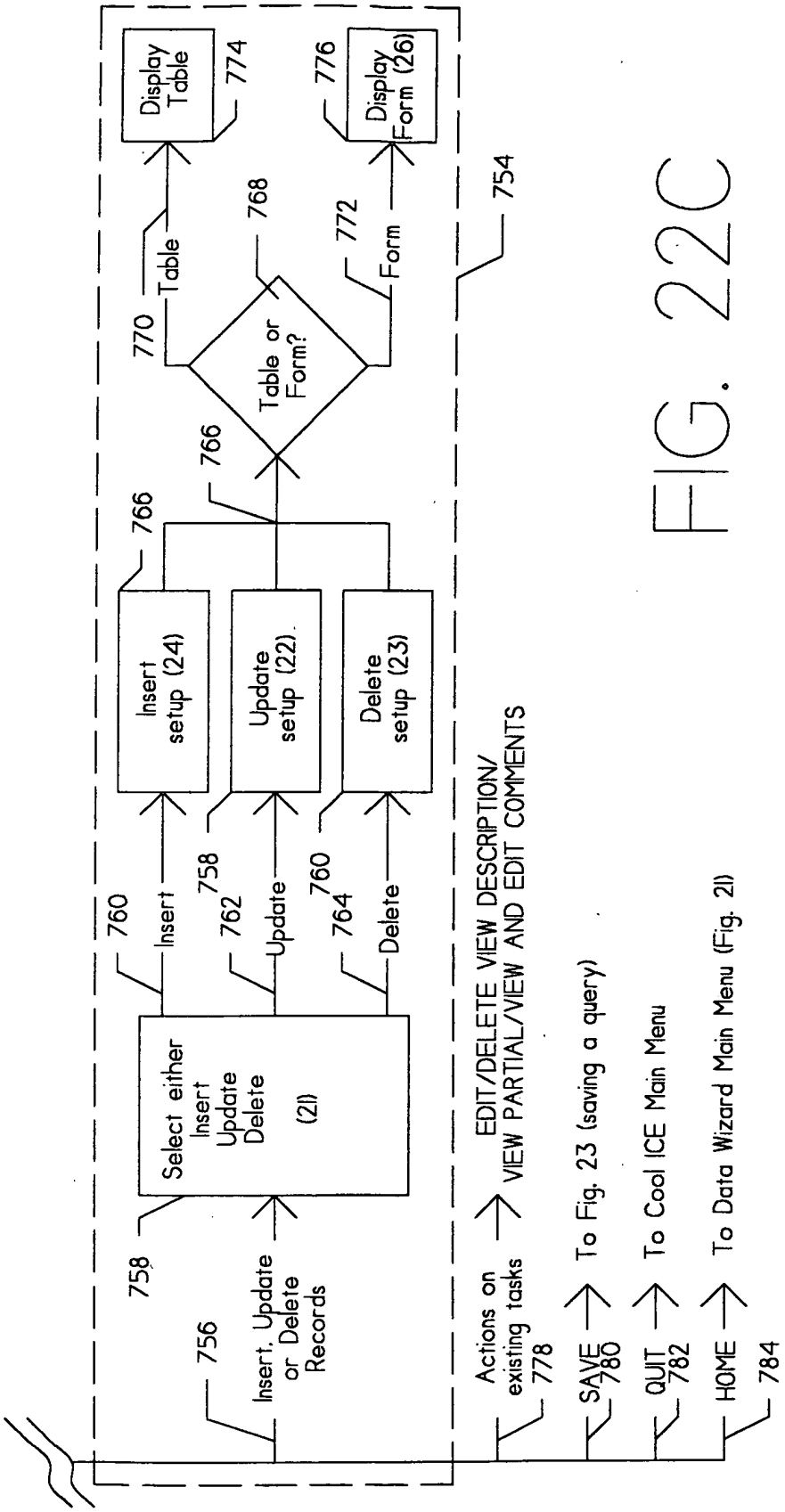
754
Display Table
774
776
Display Form (26)
768
772
Form
770
Table
Table or Form?
766
766
Insert setup (24)
Update setup (22)
Delete setup (23)
760
Insert
758
762
Update
760
764
Delete
Select either Insert Update Delete (21)
758
EDIT/DELETE VIEW DESCRIPTION/ VIEW PARTIAL/VIEW AND EDIT COMMENTS
Actions on existing tasks
778
To Fig. 23 (saving a query)
SAVE
780
To Cool ICE Main Menu
QUIT
782
To Data Wizard Main Menu (Fig. 21)
HOME
784
756
Insert, Update or Delete Records

FIG. 22C

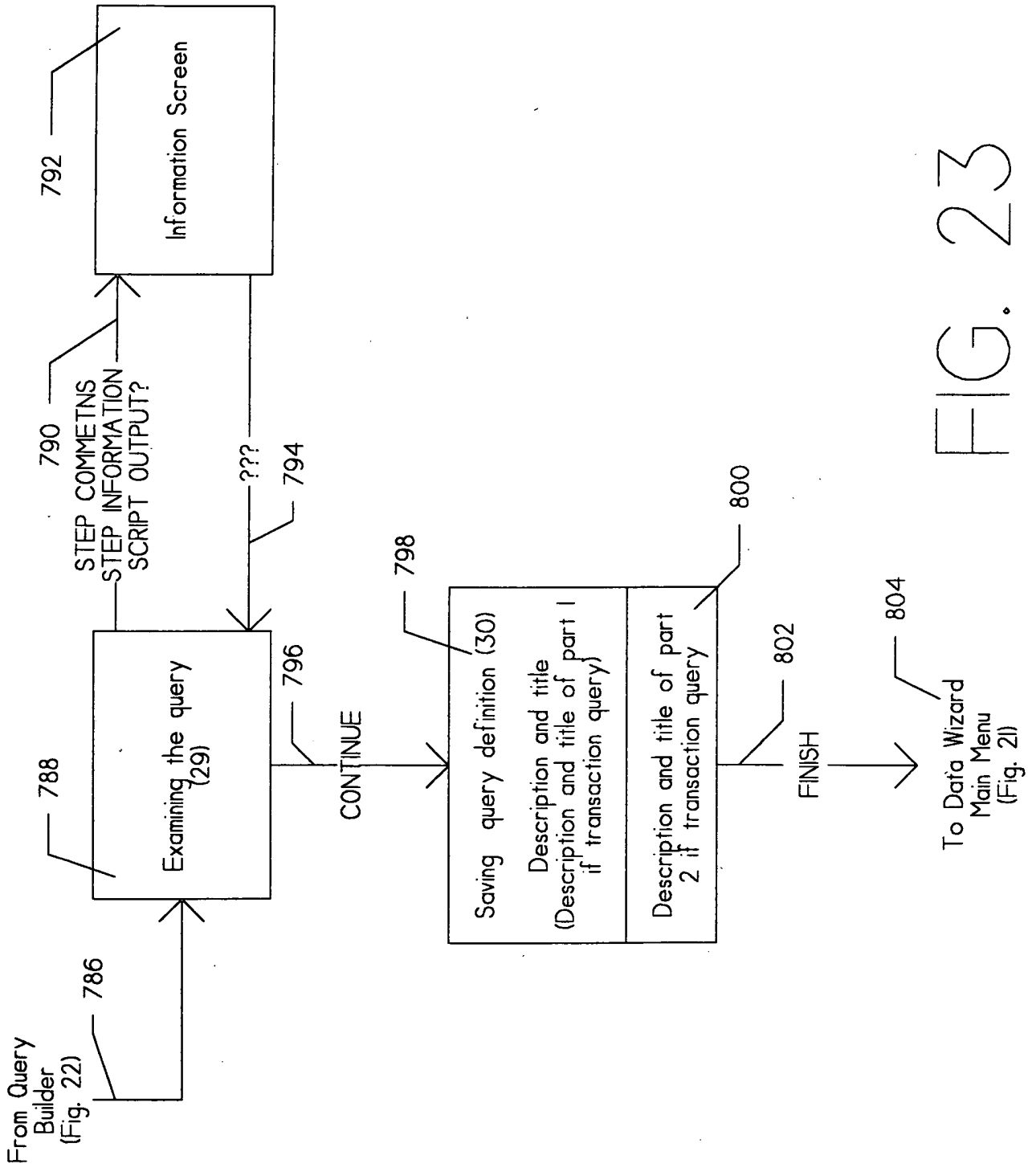
From Query Builder (Fig. 22)
786
Examining the query (29)
788
STEP COMMETNS
STEP INFORMATION
SCRIPT OUTPUT?
790
Information Screen
792
???
794
CONTINUE
796
Saving query definition (30)
798
Description and title (Description and title of part 1 if transaction query)
Description and title of part 2 if transaction query
800
FINISH
802
To Data Wizard Main Menu (Fig. 21)
804

FIG. 23

Express Mail No. ET351442235US
Customer Assignment No. 27516

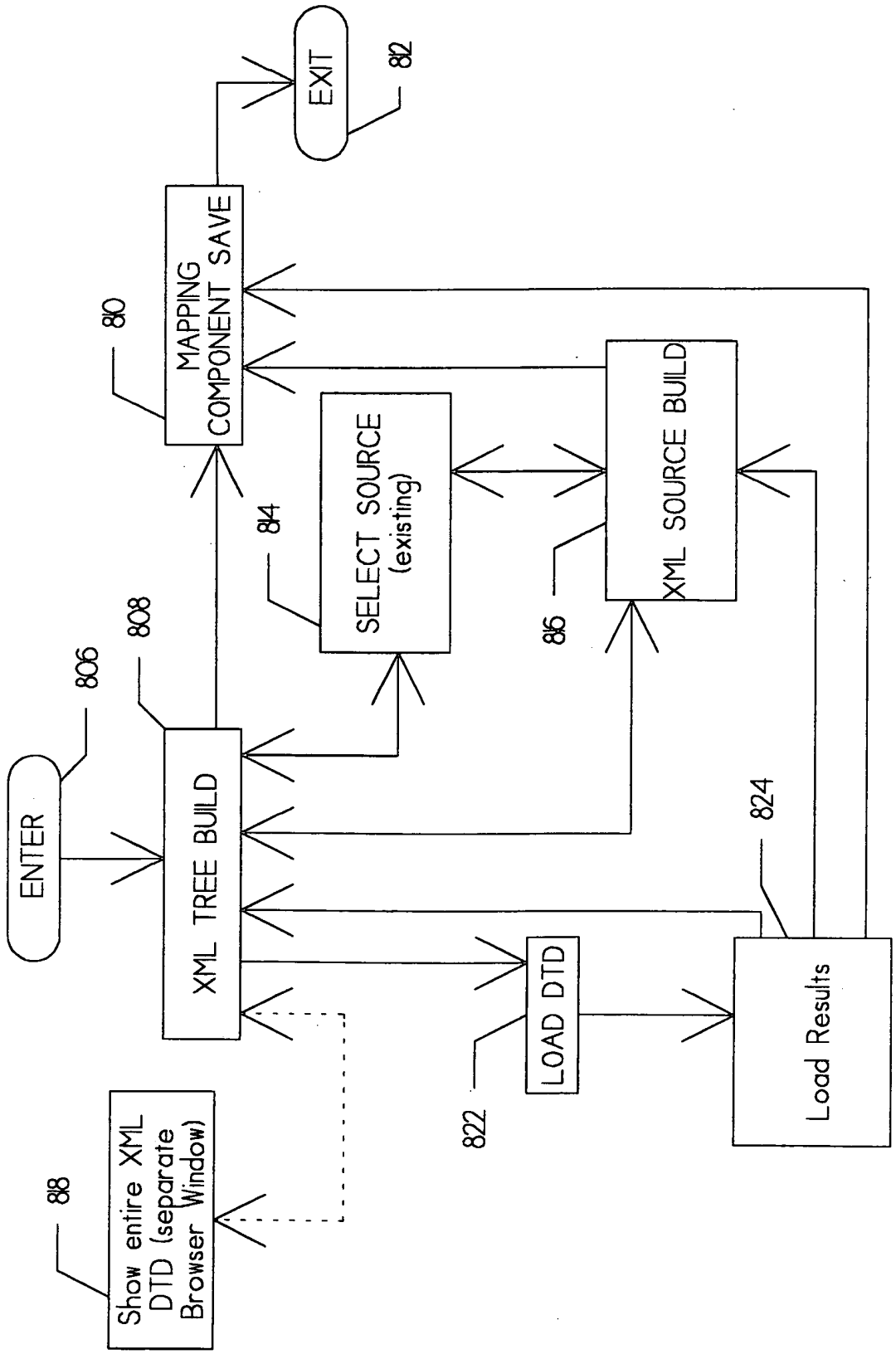

FIG. 24

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Filing Date: 12/21/2001
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Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 27 of 35
Express Mail No. ET351442235US
Customer Assignment No. 27516

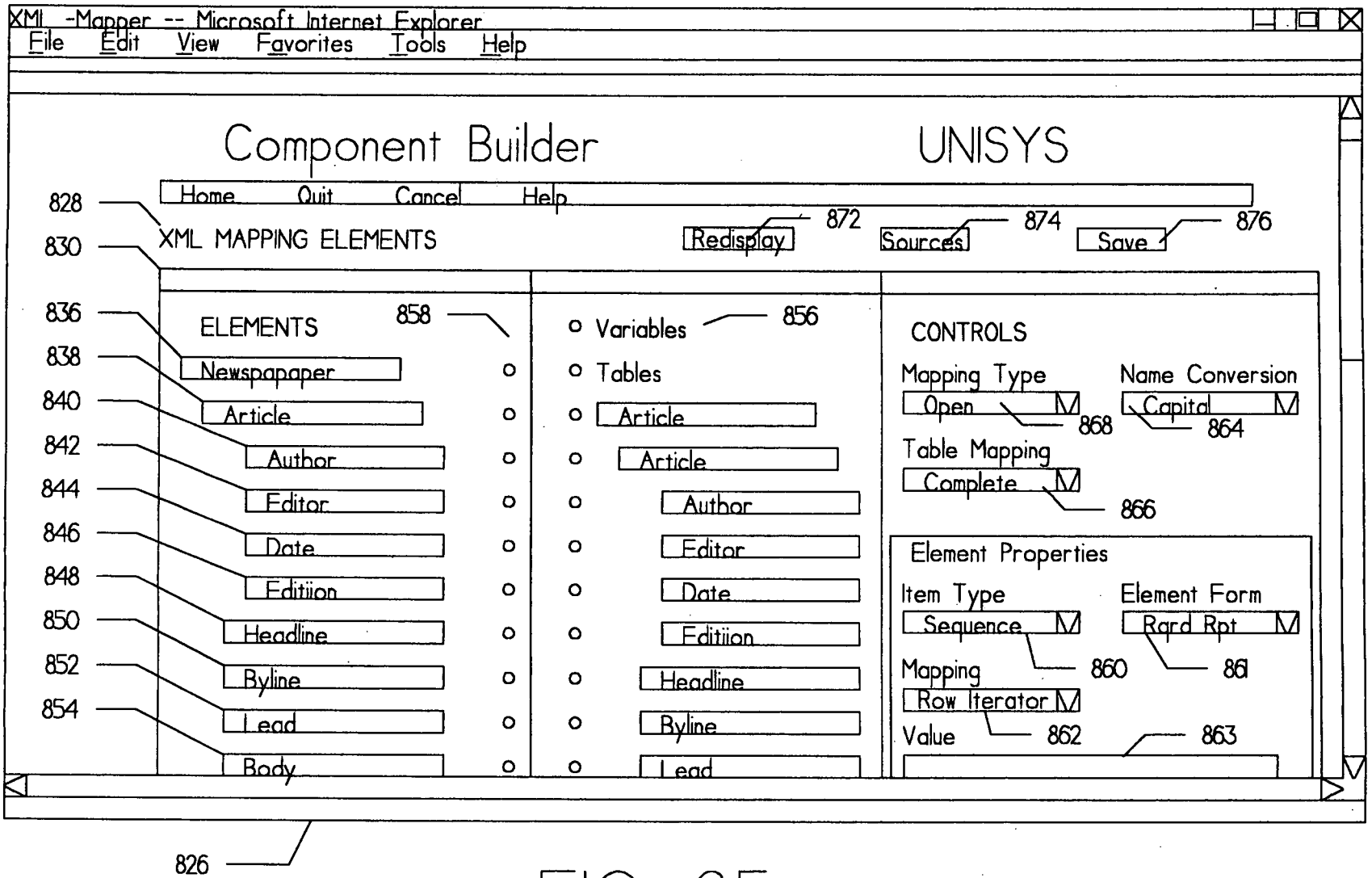

FIG. 25

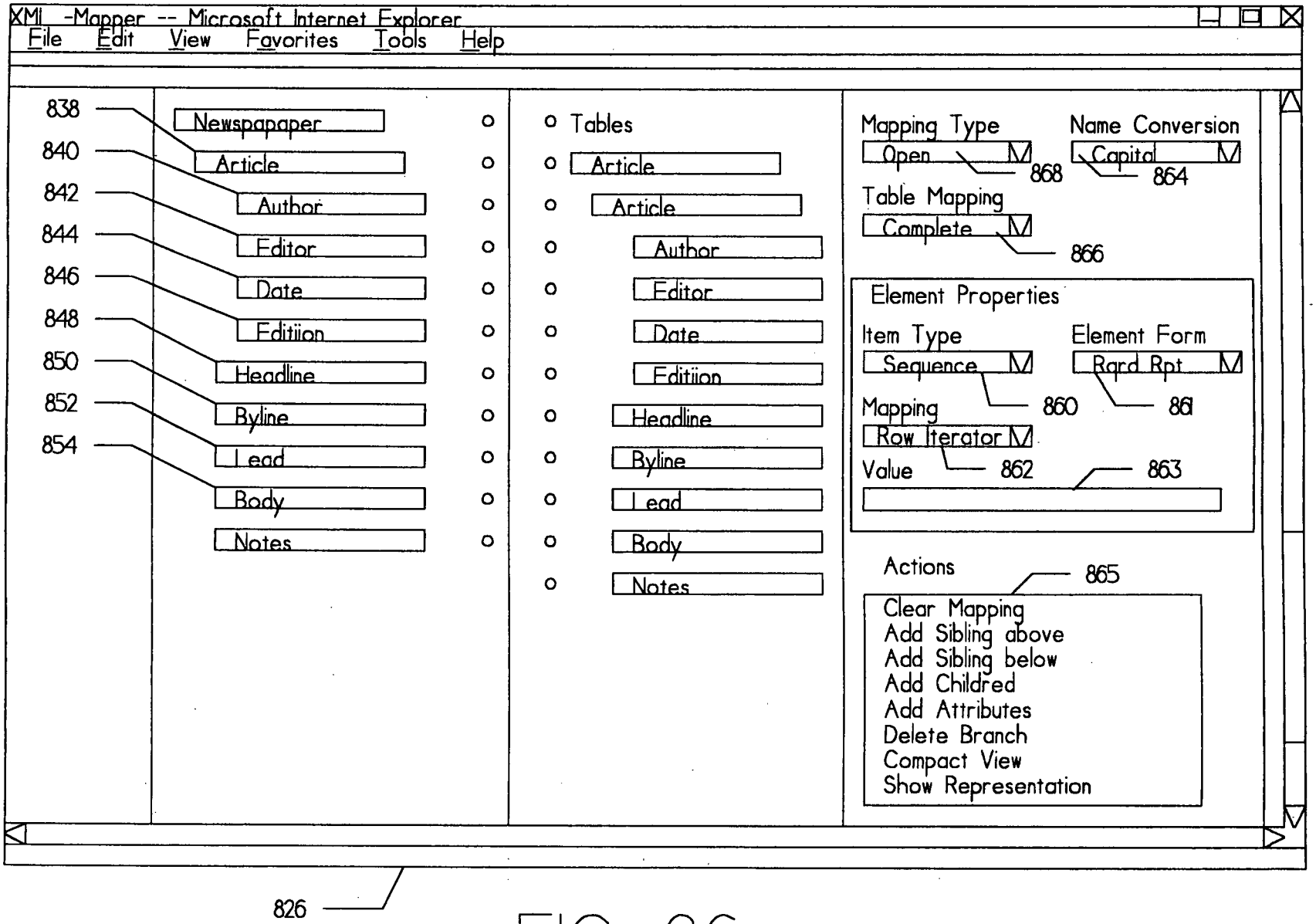

FIG. 26

Patent Application
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Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 28 of 35
Express Mail No. ET351442235US
Customer Assignment No. 27516

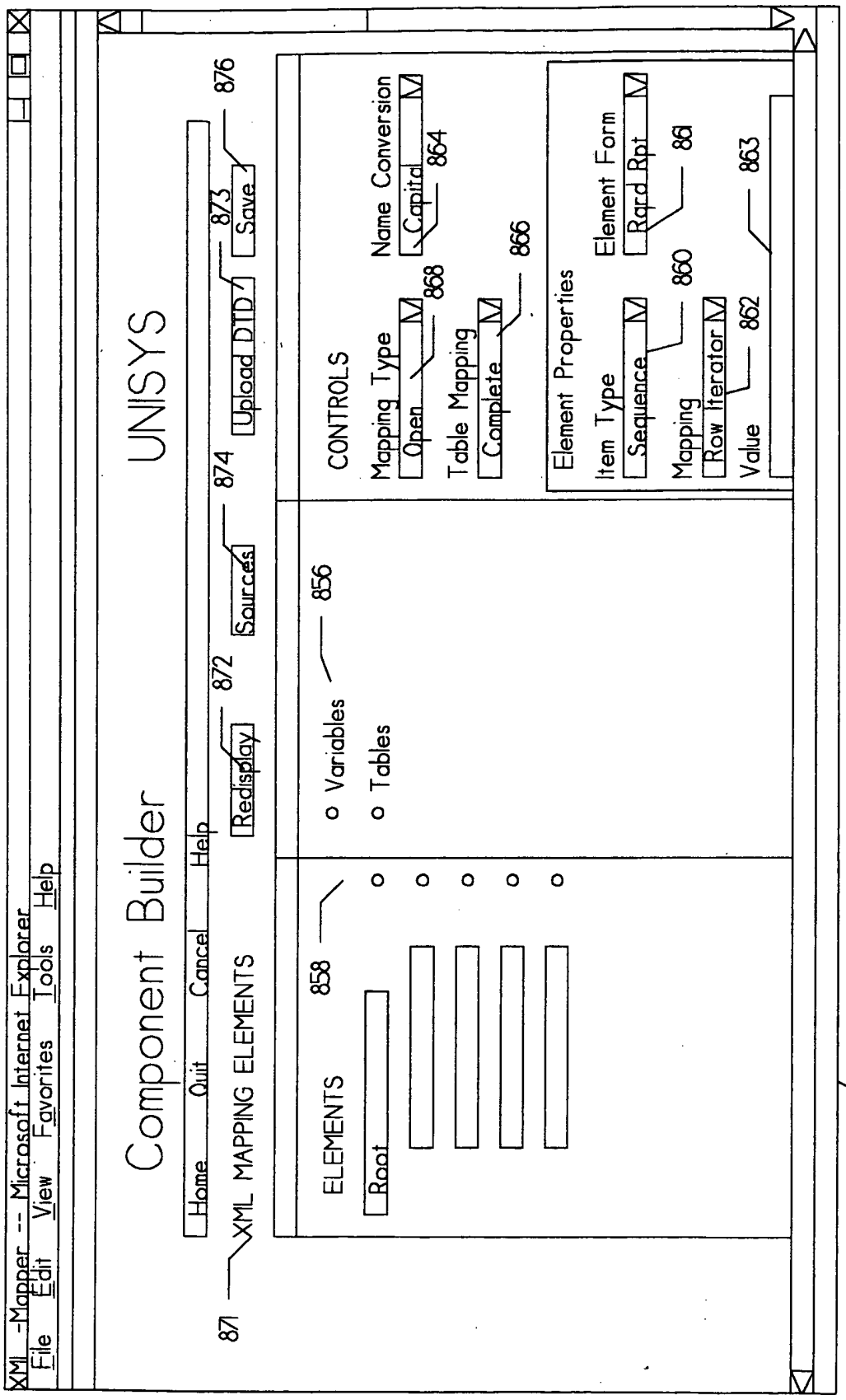
XML -Mapper -- Microsoft Internet Explorer
File Edit View Favorites Tools Help
Component Builder
UNISYS
Home Quit Cancel Help
Redisplay
Sources
Upload DTD
Save
XML MAPPING ELEMENTS
ELEMENTS
Root
Variables
Tables
CONTROLS
Mapping Type
Open
Table Mapping
Complete
Name Conversion
Capital
Element Properties
Item Type
Sequence
Mapping
Row Iterator
Value
Element Form
Rqrd Rpt
871
872
873
874
876
856
858
860
861
862
863
864
866
868
870

FIG. 27

Express Mail No. ET351442235US
Customer Assignment No. 27516

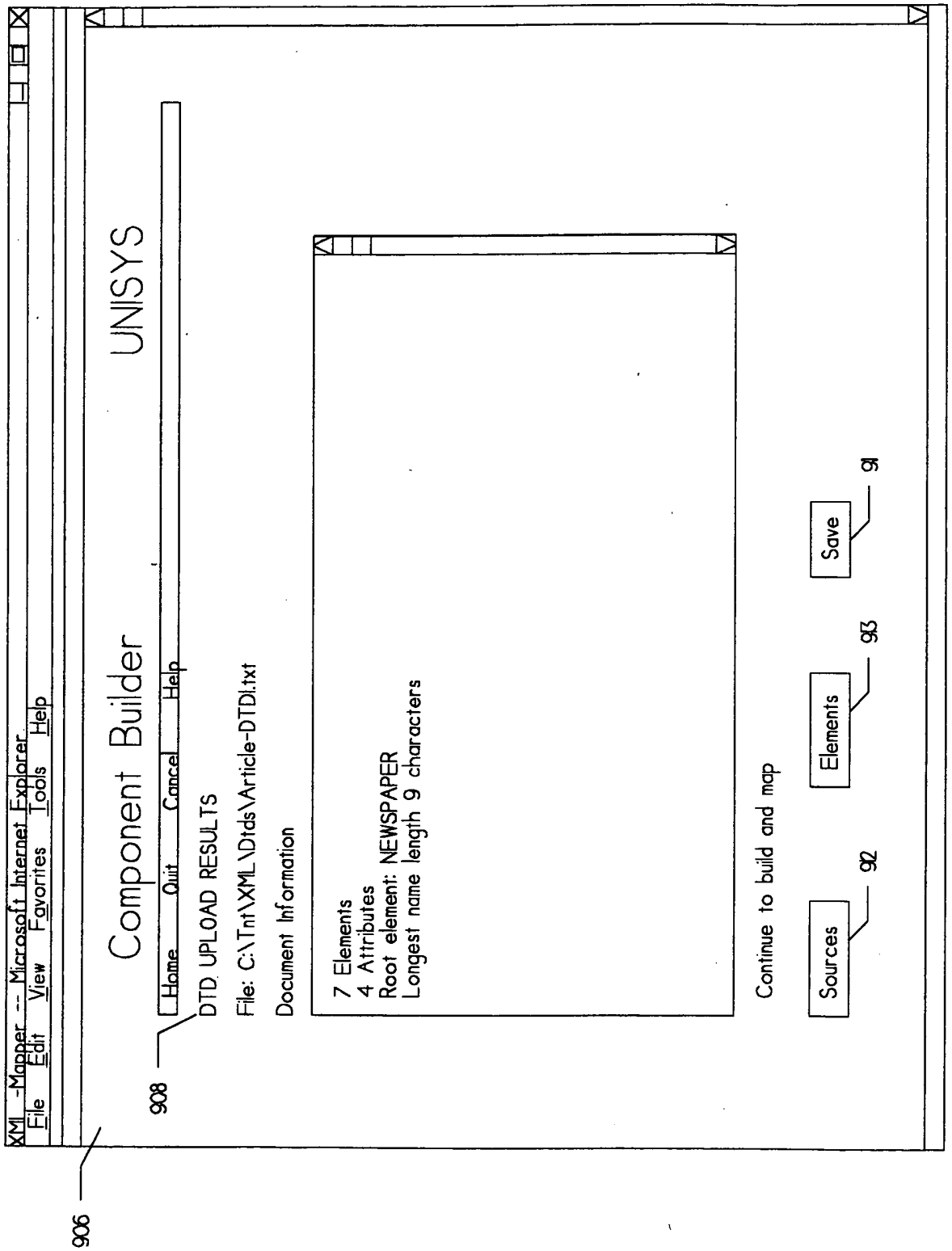

FIG. 28

Express Mail No. ET351442235US
Customer Assignment No. 27516

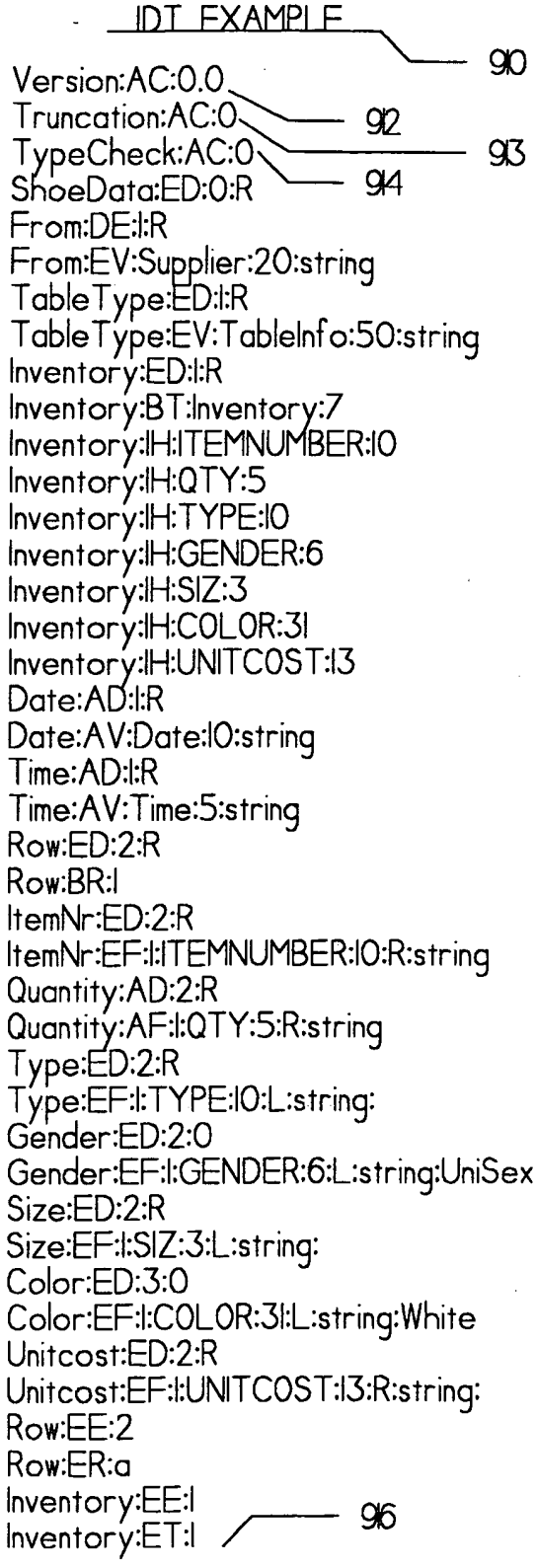

FIG. 29

Patent Application
Filing Date: 12/21/2001
Attorney Docket No. RA-5411 (33012/329/101)
Application: Thomas N. Turba et al.
Charles A. Johnson Reg. No. 20,852 651-635-7702
Drawing 32 of 35
Express Mail No. ET351442235US
Customer Assignment No. 27516

DTD EXAMPLE 918

```
<!DOCTYPE ShoeData [

  <!ELEMENT ShoeData (From, TableType, Inventory)>
  <!ELEMENT From (#PCDATA)>
  <!ELEMENT TableType (#PCDATA)>
  <!ELEMENT Inventory (Row+)>
  <!ATTLIST Inventory Date CDATA #REQUIRED>
  <!ATTLIST Inventory Time CDATA #REQUIRED>
  <!ELEMENT Row (ItemNr, Type, Gener?, Size, Color?, Unitcost)+>
  <!ELEMENT ItemNr (#PCDATA)>
  <!ATTLIST ItemNr Quantity CDATA #REQUIRED>
  <!ELEMENT Type (#PCDATA)>
  <!ELEMENT Gender (#PCDATA)>
  <!ELEMENT Size (#PCDATA)>
  <!ELEMENT Color (#PCDATA)>
  <!ELEMENT Unitcost (#PCDATA)>
```

FIG. 30

XML INPUT DOCUMENT EXAMPLE — 920

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<ShoeData>
<From>Roseville Store</From>
<TableType>Low Inventory Count</TableType>
<Inventory Date="2000-12-05" Time="11:51">
<Row>
<ItemNr Quantity="0">32335</ItemNr>
<Type>Tennis</Type>
<Gender>Mens</Gender>
<Size>6</Size>
<Color>White/Zen Grey/New Spruce</Color>
<Unitcost>25.00</Unitcost>
</Row>
<Row>
<ItemNr Quantity="0">35410</ItemNr>
<Type>Running</Type>
<Gender>Womens</Gender>
<Size>5</Size>
<Color>White/Zen Grey/Neptune Blue</Color>
<Unitcost>19.70</Unitcost>
</Row>
<Row>
<ItemNr Quantity="0">3541K</ItemNr>
<Type>Running</Type>
<Gender>Womens</Gender>
<Size>6</Size>
<Color>White/Zen Grey/Neptune Blue</Color>
<Unitcost>19.70</Unitcost>
</Row>
<Row>
<ItemNr Quantity="2">35420</ItemNr>
<Type>Running</Type>
<Gender>Womens</Gender>
<Size>5</Size>
<Color>White/Chlorine Blue/Hot Lime</Color>
<Unitcost>19.70</Unitcost>
</Row>
<Row>
<ItemNr Quantity="1">3742K</ItemNr>
<Type>Golf</Type>
<Gender>Womens</Gender>
<Size>8</Size>
<Color>White/Fluorescent Pink</Color>
<Unitcost>35.00</Unitcost>
</Row>
</Inventory>
</ShoeData>
<Color>White/Black-Hot Lime. Neo Teal</Color>
<Unitcost>40.00</Unitcost>
</Row>
<Row>
<ItemNr Quantity="0">32474</ItemNr>
<Type>Tennis</Type>
<Gender>Womens</Gender>
<Size>8</Size>
<Color>White/Light Marine-Ultramarine</Color>
<Unitcost>25.00</Unitcost>
</Row>
<Row>
<ItemNr Quantity="1">35310</ItemNr>
<Type>Running</Type>
<Gender>Mens</Gender>
<Size>6</Size>
```

FIG. 31

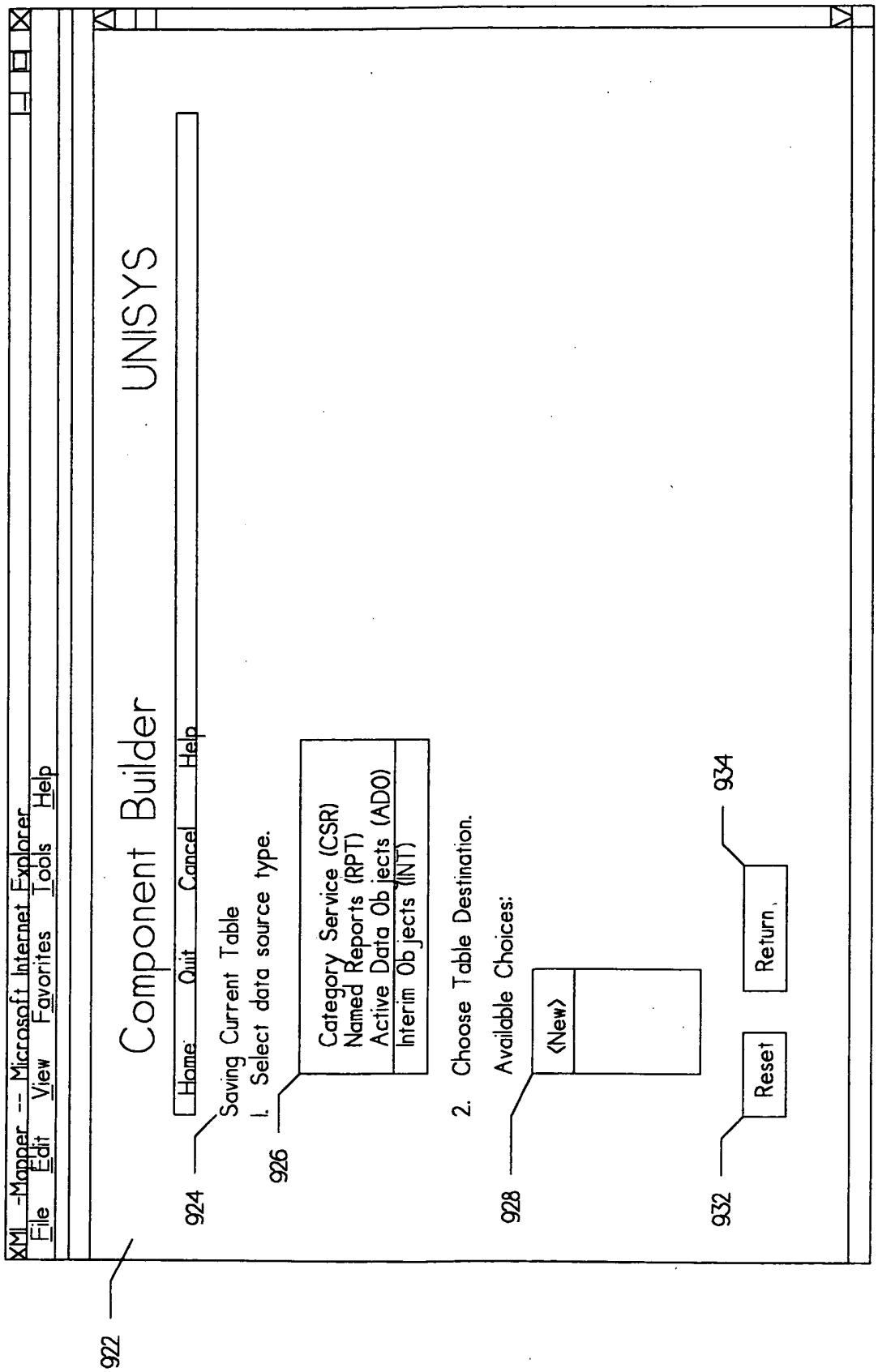
XML -Mapper -- Microsoft Internet Explorer
File Edit View Favorites Tools Help
Component Builder
UNISYS
Home Quit Cancel Help
924
Saving Current Table
1. Select data source type.
926
Category Service (CSR)
Named Reports (RPT)
Active Data Objects (ADO)
Interim Objects (INT)
2. Choose Table Destination.
Available Choices:
928
<New>
934
Return
932
Reset
922

FIG. 32

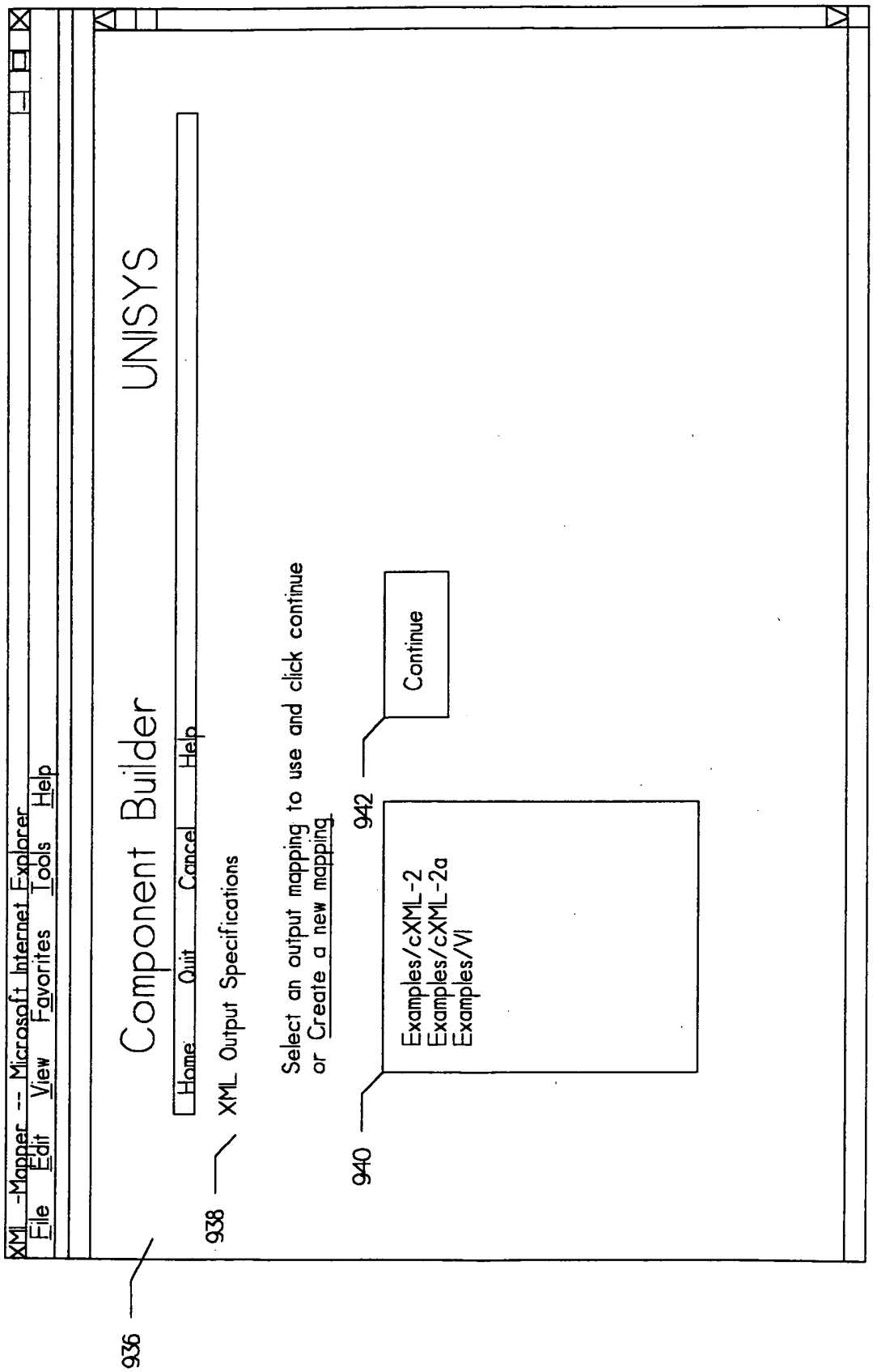
XML -Mapper -- Microsoft Internet Explorer
File Edit View Favorites Tools Help
UNISYS
Component Builder
Home Quit Cancel Help
XML Output Specifications
Select an output mapping to use and click continue
or Create a new mapping
Continue
Examples/cXML-2
Examples/cXML-2a
Examples/VI
936
938
940
942

FIG. 33